PROJECT FILE

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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September 29, 2008

In Reply Refer To
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Memorandum

To: Field Office Manager, Bureau of Land Management, Kanab Field Office, 318 North 100 East, Kanab, Utah 84741

From: Utah Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services, West Valley City, Utah

Subject: Biological Opinion for BLM Resource Management Plan (RMP), Kanab Field Office (KFO)

This document transmits the Fish and Wildlife Service's (Service) Biological Opinion based on our review of potential activities described under the Resource Management Plan of the Utah Bureau of Land Management (BLM) Kanab Field Office's (KFO) and their potential effects on the federally threatened Mexican spotted owl (*Strix occidentalis lucida*), Utah prairie dog (*Cynomys* parvidens), Siler pincushion cactus (*Pediocactus sileri*), and Welsh's milkweed (*Asclepias welshii*); and federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). In addition, this document includes the Conference Opinion for the candidate species Yellow-billed cuckoo (*Coccyzus americanus occidentalis)* and Coral Pink Sand Dunes tiger beetle (*Cincindella limbata albissima*), and the experimental, non-essential population of the endangered California Condor (*Gymnogyps californianus*). Critical habitat was designated for the Mexican spotted owl on February 01, 2001 and was re-designated August 31, 2004 (66 FR 8530, 69 FR 53181). Critical habitat was designated for the southwestern willow flycatcher on October 12, 2004 (69 FR 60705). Your July 21, 2008 request for formal consultation for all aforementioned species was received on July 22, 2008.

Kanab FO BLM Resource Management Plan proposed activities are categorized into the following 23 programs:

Air Quality
Soil Resources
Water Resources
Vegetation Management

Special Status Species Management
Fish and Wildlife Management
Fire Management
Cultural Resources
Paleontological Resources
Visual Resources
Forestry and Woodland Resources
Livestock Grazing Management
Recreation Management
Transportation Management
Lands and Realty Management
Minerals and Energy Management
Special Management Areas Programs (5)
Special Designations Management – Other Designations
Hazardous Materials and Safety Management

This Biological Opinion and Conference Opinion is based on information provided in the July 21st 2008 Biological Assessment, personal communications between the Service's biologists and the BLM's biologists, telephone conversations, email correspondence, conference calls, planning meetings, and other sources of information. A complete administrative record of this consultation is on file at this office.

Consultation History

This section summarizes significant steps in the consultation process. Additional correspondence, and email transmissions, that occurred between May 8, 2008, and September 25, 2008 are documented in the administrative record for this consultation.

- May 9, 2008: BLM electronically sent a draft Biological Assessment for the Kanab BLM Field Office Resource Management Plan to the Service for review;
- May 2008 through June 26, 2008: The Service reviewed and provided comments on the draft Biological Assessment;
- July 22, 2008: We received the final version of the KFO Biological Assessment and began formal consultation;
- September 12, 2008: A draft Biological Opinion was provided to the Kanab Field Office;
- September 23-25, 2008: The BLM provided comments which were integrated into the Biological Opinion.

PROGRAMMATIC BIOLOGICAL OPINION

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DESCRIPTION OF THE PROPOSED ACTION

The proposed action examined in this consultation is the continuation of land management activities described by the Resource Management Plan (RMP). The RMP replaces five Land Use Plans and two travel restriction actions that provided management direction for the planning area. The Kanab RMP and the accompanying Environmental Impact Statement (EIS) will provide planning guidance for public lands managed by the Kanab Field Office (KFO) in Garfield and Kane Counties in southern Utah for the next 15 to 20 years. RMPs are used by the BLM to guide and control future actions and set standards upon which future decisions on site-specific activities will be based. RMPs only establish general management policy on a broad scale. They are not used to make decisions that commit resources on a small scale such as on specific parcels of land. RMPs identify desired outcomes, also known as "desired future conditions". These desired future conditions are expressed in RMPs as goals, standards, objectives, and allowable uses and actions needed to achieve desired outcomes. These are often referred to as RMP decisions or resource allocations. It is upon these RMP decisions or resource allocations that the effects determinations in this Biological Opinion are based for:

- Utah prairie dog (*Cynomys parvidens*)
- Mexican spotted owl (*Strix occidentalis lucida*)
- Southwestern willow flycatcher (*Empidonax trailli extimus*)
- Siler pincushion cactus (*Pediocactus sileri*)
- Welsh's milkweed (*Ascelpias welshii*)

In addition, our Conference Opinion considers the effects for these experimental, non-essential and candidate species:

- California condor (*Gymnogyps californianus)*
- Yellow-billed Cuckoo *(Coccyzus americanus occidentalis)*
- Coral Pink Sand Dunes tiger beetle (*Cincindela limbata albissima*)

The action area is defined at 50 CFR 402 to mean "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action". Federal lands administered by other agencies and State, Tribal, and private lands that adjoin BLM-administered land are also considered part of the action area. In general, these are lands immediately adjacent to, downslope from, downstream of, or downwind from BLM-administered land where effects to the watershed, post-fire floods, ash flows, and elevated sedimentation may occur. The Proposed Action area includes the 2,847,200 million acres of public land located in Garfield and Kane counties in southern Utah, which are managed by the BLM Kanab FO (Proposed Action area). State lands, privately owned lands, Dixie National Forest, Bryce Canyon National Park, Glen Canyon NRA, Pipe Spring National Monument, Cedar Breaks National Monument, Kodachrome Basin State Park, Escalante Petrified Forest State Park, Coral Pink Sand Dunes State Park, Zion National Park, Capitol Reef National Park, Grand Staircase-Escalante National Monument (GSENM), Paria Canyon-Vermilion Cliffs Wilderness are all located in or adjacent to the Kanab Field Office, therefore, federally listed

species and habitat located on these lands could be indirectly effected by resource management decisions made in the Proposed Action area.

The Kanab RMP describes activities in a number of resource management programs. Several of the aforementioned programs have "no effect" or "not likely to adversely affect" determinations on the following species, however overall, the entire Kanab RMP is a "likely to adversely affect" determination for all the listed species: Mexican spotted owl, southwestern willow flycatcher, Utah prairie dog, Siler pincushion cactus, and Welsh's milkweed. The Kanab RMP is not likely to contribute to jeopardy of the experimental, non-essential population of the California condor, and is not likely to contribute to listing of the candidate species Western Yellow-billed cuckoo or Coral Pink Sand Dunes tiger beetle.

Table 1. Federally Protected Utah Species on BLM Lands Analyzed in this Biological Opinion (BO) for the Proposed Resource Management Plan by Kanab BLM Field Office. "Likely to adversely affect" determinations (LAA) are used if a program may have any direct or indirect adverse effect to a threatened or endangered species. "May affect, not likely to adversely affect" (NLAA) determinations conclude that activities occurring under the program are either insignificant or beneficial. "No effect" (NE) determinations conclude that the species and critical habitat will be unaffected by the proposed activities under the program. "Not likely to contribute to Federal listing" (NCFL) are listed for candidate species if the program was determined not to contribute to its listing as a threatened or endangered species. "No Jeopardy" (NJ) are listed if the program was determined not to jeopardize an experimental, non-essential population.

Kanab BLM Field Office																			
Programs Common Name (*Scientific Name*)	Air Quality	Soil Resources	Water Resources	Vegetation Management	Special Status Species Management	Fish and Wildlife Management	Fire Management	Cultural Resources	Paleontological Resources	Visual Resources	Forestry and Woodland Resources	Livestock Grazing Management	Recreation Management	Transportation Management	Lands and Realty Management	Minerals and Energy Management	Special Management Areas - ACECs, etc	Special Designations Management	Hazardous Materials and Safety Management
Utah prairie dog (*Cynomys parvidens*)	NE	LAA	NLAA	LAA	LAA	LAA	LAA	LAA	LAA	NLAA	NLAA	LAA	LAA	NE	LAA	LAA	NLAA	LAA	LAA
California Condor (*Gymnogyps californianus*)	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Mexican spotted owl (*Strix occidentalis lucida*)	NE	LAA	LAA	LAA	NLAA	LAA	LAA	LAA	LAA	NLAA	LAA	LAA	LAA	NE	LAA	LAA	NLAA	LAA	LAA
Southwestern willow Flycatcher (*Empidonax trailli extimus*)	NE	LAA	LAA	LAA	NLAA	LAA	LAA	LAA	LAA	NLAA	LAA	LAA	LAA	NE	LAA	LAA	NLAA	LAA	LAA
Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	NI	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL
Coral Pink Sand Dunes tiger beetle (*Cincindela limbata albissima*)	NI	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL	NCFL
Siler pincushion cactus (*Pediocactus sileri*)	NE	LAA	NLAA	LAA	NLAA	LAA	NLAA	LAA	LAA	NLAA	LAA	LAA	LAA	NE	LAA	NLAA	NLAA	LAA	LAA
Welsh's milk weed (*Ascelpias welshii*)	NE	LAA	NLAA	LAA	NLAA	LAA	NLAA	LAA	LAA	NLAA	NE	NLAA	LAA	NE	NLAA	NLAA	NLAA	LAA	LAA

Description of Activities and Management Prescriptions under the Kanab RMP

Air Quality

The primary objective of air quality management within the Kanab planning area is to maintain air quality in accordance with standards precribed by federal and state laws and regulations. The air quality program does not consider potential impacts to fish and wildlife resources beyond the standards set forth by EPA and the Utah Department of Environmental Quality. Air quality management actions include managing air quality in accordance with standards provided by federal, state and local laws and regulations, compliance of the Clean Air Act, mitigation of actions that compromise ambient air quality standards or visibility within the Class I air areas, and compliance with Utah Administrative Code Regulation R307-205, which prohibits the use, maintenance, or construction of roadways and disturbed areas without taking appropriate dust abatement measures. Compliance would be obtained through special stipulations as a requirement on new projects and through the use of dust abatement control techniques in problem areas.

The existing air quality in the planning area is expected to be typical of undeveloped regions in the western United States. Limited data collected in typical areas indicate that ambient pollutant levels are usually near or below measurable limits.

The most recent UDAQ Statewide Emissions Inventory Report shows that the primary air pollutant in Garfield and Kane counties is volatile organic compounds, followed by carbon monoxide, PM10, nitrogen oxides, sulfur oxides, and PM2.5.

The greatest sources of air pollution emissions in Garfield and Kane counties are area sources and on-road mobile sources. Area sources include small mobile and stationary sources such as gas stations or wood burning. Vehicles are the major source of on-road mobile emissions.

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Many Best Management Practices (BMPs), designed to reduce sedimentation and protect water quality also benefit soil productivity by minimizing erosion. Examples of other soil protection measures implemented under this program include maintenance and restoration of appropriate biological soil crusts, and enhancement of stability and infiltration to provide for optimal plant growth. Generally, the soil management program provides information in support of other resource objectives and goals.

Under this program, management actions include implementation of BMPs reduction of soil loss by performing appropriate land treatments such as seeding and fuels reduction, reclamation of surface disturbance and temporary roads associated with other projects, and identification of fragile soils and site-specific regulations to protect these soils. Restrictions may include but are not limited to the modification of construction design in order to accommodate the preservation

of physical and biological soil integrity, timing restrictions to reduce impacts to soils, or use of sediment and salt reducing measures during construction activities. Activity plans will address site-specific problems and include monitoring for salt and sediment loading.

Water Resources Management

The objectives of water resources management are to protect, maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards and to provide for availability of water to facilitate authorized uses. This program also aims to minimize harmful consequences of erosion and surface runoff from BLM-administered public land.

Activities authorized under water resources management may include implementation of watershed plans, identification of heavy sediment loads, monitoring and treating soil erosion, evaluating and restricting surface development, and monitoring water quality. Watershed management activities also include some of these same activities through the evaluation of projects, application of soil management practices, application of seasonal closures, monitoring of public drinking water, and completion of groundwater studies. Management of water resources may include the imposition of restrictions on activities such as development, in order to maintain water, and watershed quality. Individual site specific environmental documents outline water resource protection measures including buffer zones for springs, reservoirs, wells, and streams

Vegetation Management

Objectives of the vegetation resource management program are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Primary goals of the vegetation management program are to monitor and improve riparian habitats, and rehabilitate functioning at-risk and non-functioning areas.

Vegetation treatments, (e.g., timber harvest and sagebrush spraying, burning, chaining) will be designed to meet overall resource management objectives, which include the protection of listed plant and animal species. Control methods include chemical, biological, and mechanical, and cultural practices. Biological control can involve the use of weevils, beetles, or goats.

Mechanical methods include dozing, cutting, chopping, and pulling. Cultural controls include education and public awareness campaigns, use of weed free forage, and changes in grazing practices to increase health and vigor of plant communities so that they are more resistant to invasion. Depending on the site and circumstances, these methods can be used individually or in combination. Fire is used to improve range forage production, wildlife habitat, timber stands, sale debris disposal, and to reduce hazardous fuel buildup. Seed collection, scientific collection, and collection by Native Americans for traditional use is also approved under this program.

Special Status Species Management

Objectives of the special status species program include maintenance of biological diversity of plant and animal (terrestrial and aquatic) species by supporting the State Division of Wildlife

Resources' strategic plans for wildlife population objectives to the extent practical and consistent with BLM multiple-use management requirements. Other objectives include the development of protective measures for federally listed species and other special status species; cooperations with other agencies in managing listed species; facilitation of scientific research of special status species and their habitats, and to the extent possible, avoidance of habitat fragmentation.

In addition, BLM's special status species management program often includes the enforcement of timing restrictions, completion of surveys, and development of conservation measures and best management practices for the mitigation of effects of development deemed to be discretionary actions of the BLM. Activities implemented under this program may include identification and enforcement of timing stipulations; completion of species surveys; implementation of Recovery Plans; implementation of Conservation Agreement and Strategy decisions to increase populations and improve habitat of special status species; and closure of areas containing sensitive species populations or habitat.

Fish and Wildlife Resource Management

The BLM works closely with the UDWR to manage habitat for fish and wildlife (including big game, upland game, waterfowl, neo-tropical migratory birds, small mammals, amphibians, and reptiles) to achieve and maintain suitable habitat for desired population levels and distribution within the decision area. The UDWR is responsible for managing wildlife population levels; the BLM is responsible for managing wildlife and fisheries habitat in a condition that will support desired levels of species. The BLM works cooperatively with the UDWR to maintain and reestablish populations of native species that have used the historic range located within the planning area through habitat management and restoration.
Objectives of the fish and wildlife resource management program include maintenance of habitat quantity, quality, and connectivity to sustain diverse wildlife populations; maintenance and improvement of aquatic habitats to sustain diverse fisheries and aquatic populations; and conservation of migratory bird habitat as directed by Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) and the Migratory Bird Treaty Act and emphasize management of migratory birds listed on the USFWS current list of Birds of Conservation Concern and the Partners-in-Flight priority species.
Fish and wildlife management actions may include surveying; habitat monitoring; habitat and species inventories, habitat improvement, habitat restoration, water developments, riparian habitat improvements, etc., as well as development of habitat management plans.

The BLM develops stipulations and conservation measures to both protect and enhance wildlife and fisheries habitats. These stipulations and conservation measures may include such things as: recommending withdrawal of some areas from mineral entry; limiting access to specific areas by OHVs and pedestrians; and minimizing the impacts of surface development. The BLM may acquire crucial wildlife habitats or easements and conduct inventories of potential habitats for occurrences of threatened, endangered, and sensitive species or their habitat.

Wildland Fire Management

Objectives of fire management are to protect life, property, and resource values from wildfire and to restore the natural role of fire in the ecosystem. The major activities involved with the

fire management program include: wildfire suppression, managing natural ignitions as wildland fire use for resource benefit, prescribed burning, non-fire fuels treatment for hazardous fuels reduction, and emergency stabilization and rehabilitation following wildfires.

Fires within the planning area are both naturally occuring and used as a management tool. Naturally occuring fires are widely distributed in terms of frequency and severity. Historically, the area has displayed a moderate to high frequency of fires, averaging 47 fires per year and burning an average of 573 acres per year. During the 10 year period of 1991-2001, the planning area averaged 86 fires per year burning an average of 448 acres annually.
Wildfires are suppressed when they threaten values and resources, such as: wildland urban interface areas, developed recreation sites, areas that are unlikely to recover following fire (i.e., areas of noxious weeds or invasive species), sensitive soils, critical threatened and endangered species habitat, or fires with potential to spread to private, state, or other federal lands. Fire suppression methods vary with the intensity of the wildfire and are conducted on an emergency basis. Firelines may be constructed by hand or by heavy equipment to contain the wildfire. Water may be withdrawn from nearby sources to suppress fires. Chemical fire suppression agents and retardants may be used, if necessary. The use of aerial fire retardant is restricted near water resources. After a fire is extinguished, emergency stabilization and rehabilitation techniques, such as seeding and soil stabilization actions, may be used restore a burned or suppressed area to its previous vegetation cover. These suppression and post-suppression activities often employ the use of off-road vehicles, hand tools, and heavy equipment such as bulldozers.

Wildland fire use fires are implemented in areas that would benefit from the reintroduction of fire. Some suppression techniques, as described above, may be used to keep the fire within pre-determined boundaries, but no emergency stabilization and rehabilitation actions are taken following wildland fire use.

Prescribed fire and non-fire fuels treatment objectives are to restore natural fire regimes, reduce hazardous fuel loading, and enhance resources, such as wildlife habitat. Prescribed fires follow a pre-determined prescription and include activities such as broadcast burning or pile burning following manual or mechanical fuel treatments. Non-fire fuel treatment actions include: tree thinning or clear-cutting (i.e., juniper) by hand or using mechanized equipment, chemical application of herbicides to reduce shrub cover, disking to remove vegetation and prepare the soil for seeding, and seeding of native and/or non-native species to prevent increase of invasive species.

Cultural Resources

The objective of the cultural resource management program is to protect, preserve, interpret, and manage significant cultural resources for their informational, educational, recreational, and scientific values. Site-specific inventories for cultural resources are required before the start of surface disturbance or if Kanab Field Office-administered lands were proposed for transfer out of federal ownership.

Inventories have traditionally been conducted to support site-specific surface-disturbing projects, such as mineral and energy development, to comply with the requirements of Section 106 of the

National Historic Preservation Act and other cultural resource preservation laws. During these activities, cultural resources are inventoried, categorized, and preserved; in addition staff will conduct field activities, perform excavations; map and collect surface materials, research records, and photograph sites and cultural resources. Inventory data collection is used for documentation and development of mitigation plans before other resource program surface disturbance. Inventory activities commonly entail the use of hand tools, power tools, or heavy machinery. Survey intensity varies among inventories and may last from one day to several weeks. In addition, academic institutions have performed research excavations, although such scientific investigations were limited. Intensive cultural resource inventories that meet Utah Class III standards (i.e., 15-meter transect intervals) have been completed on only approximately 57,000 acres.

Cultural resource land management may further include: reduction of imminent threats and potential conflicts from natural and human-caused deterioration, including other resource uses; creation of opportunities for scientific and educational uses of cultural resource sites; interpretation and education focused on previous human occupation and land uses, provision of traditional Native American uses though permits, including collection of herbs, medicines, traditional use items, and items necessary for traditional, religious, or ceremonial purposes. These actions may involve proactive research, protection and inventories involving universities, service groups, site stewards, tribes and community outreach.

Surface disturbance is generally avoided near significant cultural resource sites and within ¼ mile or the visual horizon of significant segments of historic trails and canals. Sites listed on, or eligible for, the National Register for Historic Places are protected and would be managed for their local and national significance in compliance with the National Historic Preservation Act, the Archaeological Resources Protection Act, the American Indians Religious Freedom Act, and the Native American Graves Protection and Repatriation Act, as appropriate.

Paleontological Resources

Paleontological resources are abundant in the Kanab Field Office. Rocks dating to the latter part of the Mesozoic, known as the Cretaceous (65 to 144 million years ago), that crop out in the nearby GSENM have already proven to contain one of the best terrestrial fossil records for this time in the world. Similar rock strata occur in the decision area and have similar potential to help understand these ancient ecosystems that foreshadowed our modern world. The objective of the paleontological resource management program is to protect, preserve, interpret, inventory and manage significant paleontological resources for their informational, educational, recreational, and scientific values. On the ground paleontological inventories are required prior to surface disturbing areas in Class I areas.

During these activities, paleontological resources are inventoried, categorized, and preserved; in addition staff will conduct field activities, perform excavations; map and collect surface materials, research records, and photograph sites and resources. Inventory data collection is used for documentation and development of mitigation plans before other resource program surface disturbance. Inventory activities commonly entail the use of hand tools, power tools, or heavy machinery. Survey intensity varies among inventories and may last from one day to several weeks. In addition, academic institutions have performed research excavations.

Paleontological resource land management may further include surface collection of common invertebrate and botanical paleontological resources for non-commercial use, interpretation of paleontological resources, protection of fossil resource sites not feasible or desirable to excavate.

Visual Resource Management

The objective of visual resource management (VRM) is to manage public lands in a manner that will protect the quality of the scenic (visual) values of the landscape. To accomplish this objective, BLM establishes visual resource management priorities while giving consideration to other resource values and uses. Visual resources are managed in accordance with objective classes that have been assigned to all public lands in each Field Office.

To meet VRM objectives, the BLM designs facilities, such as power lines, oil and gas wells, wildlife guzzlers, and storage tanks to fit with their surroundings. Design considerations include location (e.g., screening or distance), color (painting), building materials, size and scale, and reclamation.

Forestry and Woodland Products

Forest management objectives are to maintain and enhance the health, productivity, sustainability, and biological diversity of forest and woodland ecosystems and to provide a balance of natural resource benefits and uses, including opportunities for commercial and non-commercial harvest of forest and woodland products on a sustainable basis. Forests are managed for multiple uses, such as recreation, livestock grazing, and wildlife habitat. The forest management program also implements silviculture practices including site preparation, regeneration, stand protection, stand maintenance, pre-commercial and commercial thinning for density management, fertilization, pruning, forest and woodland condition restoration treatments, and salvage harvest.

The program also allows commercial and non-commercial harvest of pinyon and juniper woodland products, commercial and non-commercial harvest of other species on a case-by–case basis, including in riparian areas in proper functioning condition for maintenance and improvement of those habitats and Native American non-commercial traditional use of forest and woodland products. There are approximately 478,000 acres available for forest and woodland product harvest in the decision area. Fuelwood harvest is the most common use of forest or woodland resources in the decision area. Individuals cutting firewood for personal use represents the greatest demand on the woodland resource. Historically, pinyon pine was the preferred species for fuelwood; more recently, juniper is increasingly used for fuelwood. Seasonal Christmas tree harvesting by local residents is also a common use of the woodland resource. Harvesting trees for posts is another type of woodland product use. Trees harvested for posts are generally found on the more productive pinyon-juniper sites where the soils are deep and well drained. These areas are generally associated with pinyon-juniper woodlands that have encroached into the sagebrush steppe. This program also requires development of a Forest Woodland Management Plan, and prohibits harvesting of ponderosa pine for Christmas trees, and woodland product harvest in WSA.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base, while improving wildlife habitat and watershed condition and meeting Utah's Rangeland Health Standards.

Not all BLM lands are open to livestock grazing due to conflicts with other resource uses. Range management activities may include vegetation treatments such as prescribed fire or mechanical and chemical control of noxious weeds, sagebrush, and other target species. Salt or mineral supplements may be approved to help manage livestock distribution. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management).

There are a total of 119 allotments in the decision area, which include BLM-administered land and land managed by other federal agencies, the State of Utah, and private entities. The Kanab Field Office has administrative responsibility for the federal acres within these allotments. Allotments in the decision area that are managed under the Escalante and Paria Management Framework Plans (MFPs) will be addressed by the Rangeland Health EIS being prepared by Grand Staircase-Escalante National Monument (GSENM).
Livestock grazing management includes using an interdisciplinary allotment evaluation to provide specific guidance and actions, allocation of long-term increases or decreases in forage on a case-by-case basis, analyzed through the NEPA process, use of livestock grazing to enhance ecosystem health and help accomplish resource objectives. Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities. These projects are designed and constructed to implement grazing systems that are designed to meet Rangeland Health Standards and improve watersheds conditions, wildlife habitat, riparian proper functioning conditions, and forage production.

Recreation Management

The objective of recreation resources management is to identify recreation values and resources on public lands and make decisions which will ensure that these values are maintained on a long-term sustained yield basis to meet the recreational needs of the using public. Recreation management includes allowing recreational access by the public, developing and maintaining recreation areas and facilities, issuing special recreation permits for organized groups, competitive events and commercial outfitters and guides, acquiring recreational access, providing information to the public about BLM's recreation resources and assessing effects of recreational use to the environment. The BLM monitors recreational use, develops management plans, and evaluates recreational potential.

Through the Resource Management Planning process BLM identifies and designates special recreation management areas. These include areas which require greater recreation investment, where more intensive recreation management is needed and recreation is a principal management objective. Recreational activities in the project area may include OHV use, camping, hiking,

rappelling, photography, wildlife & scenery viewing, horseback riding, hunting, and mountain biking

Transportation Management

The objectives of the transportation management program include maintenance of access for public and administrative needs; establishment of a route system that contributes to protection of sensitive resources; accommodates a variety of uses and minimizes user conflicts; and coordination of OHV management.

Activities included under this program include planning and decision making for roads and road designations. This includes the following designations 1,000 acres open to cross-country OHV use, 25,000 acres closed to OHV use, and 528,000 acres limited to designated routes only.

Lands and Realty Management

The objectives of the lands and realty management program are to support multiple-use management goals of other BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights-of-way access to serve administrative and public needs.

Public land tracts that are not critical to current management objectives will be disposed of through the realty management program (reviewed on a case-by-case basis). Non-federal lands may be acquired through exchange in areas with potential for recreation development or in areas containing important wildlife, cultural, scenic, natural, open space, or other resource values. Protective withdrawals may be established to protect and preserve important resource values, but require extensive mineral investigations.

Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights-of-way. Rights-of-way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights-of-way may be temporary or extend up to 30 years, or in perpetuity. BLM also pursues access across private lands, rehabilitates access roads that are no longer needed, and proposes easement negotiations.

The program pursues cooperative agreements, develops recreation site facilities, considers offsite mitigation, minimizes access in wildlife habitat, fences revegetation sites, blocks linear rights-of-way to vehicle use, considers temporary-use permits, considers new withdrawals, and identifies parcels for landfills under the Recreation & Public Purposes Act. Areas with important resource values will be avoided where possible when planning routes and installation of new facilities. Effects will be mitigated if it becomes necessary to place facilities within avoidance areas.

Energy and Mineral Resource Management

Objectives of the minerals and energy program are to provide opportunities for mineral exploration, development and reclamation under leasing laws subject to legal requirements to protection other resources. Mineral development is subject to leasing, location, or sale based on

the Federal mineral law covering that particular commodity. The planning area will be open to consideration for exploration, leasing, and development of leasable minerals including oil, gas, coal, oil shale, and geothermal. BLM minerals program is divided into the three categories of salable, leasable, or locatable minerals.

Salable Minerals

Salable minerals include sand, gravel, and common varieties of sandstone, shale, limestone, basalt, and granite rock. Before issuing contracts or free use permits for salable minerals, appropriate environmental analyses are conducted, including special studies or inventories of cultural resource values, threatened or endangered plant and wildlife species, and other resources. Stipulations or conditions may be included in the terms of the contract to ensure protection of the natural resources and reclamation of the land following project completion. Site reclamation is required following any surface-disturbing activity by mining for salable minerals. Reclamation includes removing surface debris, recontouring, reducing steep slopes, and planting vegetation. All reclamation proposals must conform to federal and state agency requirements.

Leasable Minerals

Leasable minerals include fluid (oil, gas, geothermal) and solid minerals such as coal, sulfur oil shale trona and associated minerals. In Utah, coal is generally extracted using underground mining methods although surface coal mine operations and methods are likely to be proposed for some future operations. Surface facilities include truck/train loadouts, offices, maintenance facilities, change house, electrical substations, and roads. Total surface disturbance is usually less than 20 acres.

Surface coal mining involves the use of draglines, shovels, and haul trucks and results in large areas of surface disturbance from road construction; topsoil and overburden removal; and stock piling of these materials. Reclamation includes recontouring as closely to the original landscape as possible, reconstruction of drainages, reseeding, and monitoring.

Fluid leasable minerals include oil, gas, and geothermal steam. In areas where development of oil and gas resources would conflict with the protection or management of other resources or public land uses, mitigation measures are identified and may appear on the leases as either stipulations to uses, or as restrictions on surface occupancy. Once the parcel is sold, it matures into a lease and is authorized for a 10 year period. Currently oil and gas leasing in the Kanab FO contains 95,400 acres are open with standard conditions, 296,200 acres open with seasonal limitations controlling surface use, 83,400 acres open under the condition of no surface occupancy, and 79,000 acres are closed.

Initial geophysical exploration involves use of ATVs and vehicles to lay the geophones and drill the shot holes for charges, or "thumpers" to create the sound waves. Exploration for oil and coal bed natural gas may also include drilling more than one well. Surface disturbance during the exploration phase of drilling includes the construction of roads, well pads, reserve pits, and other facilities.

Development of oil and gas fields includes construction pads, storage tanks, storage tank batteries, oil and gas processing facilities and necessary pipeline, compressor engines and power lines right-of-ways. Generally, each drill site includes a 3 acre pad, 1 mile of road, and 1 mile of pipeline. Directional drilling requires a larger pad size and is dependent on the number of wells drilled from each pad.

Methods to dispose of residual water from oil and gas production include: subsurface re-injection, direct surface discharge, and discharge into a containment pond or pit. Chemically polluted water may be treated before surface discharge or may be reinjected. Geothermal resources are available for exploration, development, and production and are subject to the same surface disturbance restrictions and other stipulations applied to oil and gas exploration, development, and production.

Potential impacts of locatable mineral developments include increased soil erosion resulting in increased sedimentation, some potential for release or exposure to toxic chemicals and wastes, individual mortality, localized population mortality, habitat loss/fragmentation, and reduction of reproductive success.

Special Management Areas Programs

The following describes special management areas, including Areas of Critical Environmental Concern (ACEC); Wild and Scenic Rivers (WSR); and Wilderness Resources which include Wilderness Study Areas (WSAs), congressionally designated Wilderness, and non-WSA areas with wilderness characteristics.

> Areas of Critical Environmental Concern (ACECs) - An ACEC is the principal BLM designation for public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards. The Cottonwood Canyon ACEC (3,800 acres) is the only ACEC proposed within the Kanab planning area. Management actions include limitation of OHV use to designated routes, lease for oil and gas under NSO stipulations, no allocation of livestock grazing, and regular monitoring.
>
> Wild and Scenic Rivers - Congress designates rivers into the National Wild and Scenic Rivers system. These can include scenic, wildlife, fish, cultural and recreational values among others. Eligible/suitable rivers are given a tentative classification of wild, scenic, or recreational based upon the amount of disturbance within the river corridor. Both congressionally designated rivers and eligible/suitable segments are managed to protect the free-flowing nature of the river, the tentative classification, and the outstandingly remarkable values. Currently no wild and scenic rivers have been designated within the decision area. As part of the wild and scenic river review process, fifteen river segments have been determined eligible for inclusion into the National Wild and Scenic Rivers System. With the implementation of the Proposed RMP, six eligible segments will be managed as suitable for inclusion into the National Wild and Scenic Rivers System. These sections measure 30 miles of river including 5,530 acres. Management actions

include preventing modifications such as impoundments, diversions, channelization, and other actions that could alter the values of these areas.

Wilderness Resources - There are three types of special designations in this category: wilderness study areas, congressionally designated wilderness, and non-WSA lands with wilderness characteristics. In general this means that there can be no new permanent structures or new disturbance that would require reclamation in order for the area to appear natural. The lands are closed to mineral leasing. With very few exceptions, there can be no new permanent structures or new disturbance, and no motorized or mechanized transport. The lands are closed to mineral leasing and mineral location under the mining laws. The Paria Canyon–Vermilion Cliffs Wilderness was designated by Congress on August 28, 1984 as part of the Arizona Wilderness Act of 1984. The 111,600-acre wilderness area is in the southeast portion of the decision area at the Arizona and Utah state lines, with portions of the wilderness area located in each state. The 21,200 acres in Utah are managed by the Kanab Field Office. Management actions include limiting visitor use, restoration of ecological integrity and functions, limit change in the landscape, and manage natural sound-scapes by prohibiting all motorized vehicles. From the recommendations in the *Utah Statewide Wilderness Study Report*, five WSAs were identified in the planning area. These five WSAs account for approximately 53,900 acres (10 percent) of the decision area. Management actions in WSA's include designating open routes for motorized uses if it will not impair the area's wilderness suitability, or in this case, the BLM would take appropriate steps including use of restrictions or closures, installation of additional signs and barricades, and restoration of affected areas. In addition, non-WSA areas that retain wilderness characteristics are often managed similarly to official WSA's.

Special Designations Management- Other Designations

The following describes special designations including management of National and Utah Scenic Byways and Backways, and preservation of the Old Spanish National Historical Trail. The objective of this program is to promote and protect these resources. Management actions may include interpretive information installations or events, limiting OHV use, and working in cooperation with other agencies to protect and promote these resources.

Hazardous Materials Management

The primary objective of hazardous materials management is to ensure that human hazardous materials and public safety concerns, such as hazardous materials, wastes, abandoned mine & well sites are mitigated or eliminated. The potential for intentional or accidental releases of hazardous materials onto public lands will also be minimized to protect public and environmental health and safety on lands administered by BLM.

State Office and field office contingency plans specify how personnel are supposed to respond to a hazardous substance incident, such as hazard recognition, retreating procedures, record keeping, and reporting. Contingency plans recommend using signs, fencing, and/or barricades for site security, unless such actions would create an attractive nuisance. Emergency spill response may necessitate containment measures such as building dikes, or overland vehicle and equipment travel.

Management of hazardous materials, substances, and waste (including storage, transportation, and spills) will be conducted in compliance with 29 CFR 1910, 49 CFR 100-185, 40 CFR 100-400, Comprehensive Environmental Response Compensation and Liability Act, Resource Conservation and Recovery Act, Superfund Amendment Reauthorization Act, Toxic Substances Control Act, Clean Water Act, and other federal and state regulations and policies regarding hazardous materials management. Databases of previous mining operations exist for the decision area, but no formal inventories for abandoned mine lands have occurred. Because of previous mining operations throughout the decision area, there is a potential for physical safety hazards and/or environmental issues.

Conservation Measures

As part of the proposed action, in order to minimize the effects of the above management programs, the Kanab BLM Field Office has committed to a variety of species-specific conservation measures and, in conjunction with USFWS, developed species-specific lease notices for leases permitted under the Minerals and Energy Program. For a complete listing of the BLM committed conservation measures, lease notices, and Best Management Practices (BMPs), please refer to Appendix A.

SPECIES ACCOUNTS, EFFECTS, AND CONCLUSIONS

The following section includes species-specific information pertaining to the status and distribution of each species, the environmental baseline, and programmatic-level effects of the proposed action.

Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed State or Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation process.

"Effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, which will be added to the environmental baseline. Direct effects encompass the immediate, often obvious effect of the proposed action on a species or its habitat. Indirect effects are caused by, or result from the proposed action, are later in time, and are reasonably certain to occur. In contrast to direct effects, indirect effects may be more subtle, and may affect species' populations and habitat quality over an extended period of time, long after RMP activities have been completed.

Interrelated actions are those that are part of a larger action and depend upon the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consultation. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Mexican spotted owl (*Strix occidentalis lucida*)

Status of the Species

Species / Critical Habitat Description

The Mexican spotted owl (*Strix occidentalis lucida*) is one of three subspecies of spotted owl recognized by the American Ornithologists' Union (AOU 1957:285). The other two subspecies are the northern (*S. o. caurina*) and the California spotted owl (*S. o. occidentalis*). The Mexican subspecies is geographically isolated from both the California and northern subspecies.

The spotted owl is mottled in appearance with irregular white and brown spots on its abdomen, back and head. Several thin white bands mark an otherwise brown tail. The spots of the Mexican spotted owl are larger and more numerous than in the other two subspecies, giving it a lighter appearance. *Strix occidentalis* translates as "owl of the west"; *lucida* means "light" or "bright." Unlike most owls, spotted owls have dark eyes.

Adult male and female spotted owls have similar plumage. However, the sexes can be identified by voice and size differentiation. Juveniles, subadults, and adults can be distinguished by

plumage characteristics (Forsman 1981; Moen et al. 1991). Juvenile spotted owls (hatchling to approximately five months) have a downy appearance. Subadults (5 to 26 months) have pointed rectrices with white tips (Forsman 1981, Moen et al. 1991). The rectrices of adult feathers (>27 months) have rounded and mottled tips.

Although the spotted owl is often referred to as a medium-sized owl, it ranks among the largest owls in North America. Of the 19 species of owls that occur in North America, only 4 are larger than the spotted owl (Johnsgard 1988). As a species, the spotted owl averages 41-48 cm (16-19 inches) long (Earhart and Johnson 1970), 107-114 cm (42-45 inches) across the spread wings (Walker 1974), and weighs 547-647 grams (19.5-23 ounces). These measures are expressed as ranges because, similar to other owl species, spotted owls exhibit reversed sexual dimorphism (i.e., females are larger than males).

Life history and Population dynamics

Spotted owls have one of the lowest clutch sizes among North American owls (Johnsgard 1988); females lay one to three eggs, two being the most common. Mexican spotted owls breed sporadically and do not nest every year (Ganey 1988). In good years, most of the population will nest, whereas in other years only a small proportion of pairs will nest successfully (Fletcher and Hollis 1994).

Courtship begins in March and eggs are laid in late March or, more typically, early April. Incubation begins shortly after the first egg is laid, and is performed entirely by the female. Female spotted owls generally incubate for approximately 30 days. During incubation, the female leaves the nest only to defecate, regurgitate pellets, or receive prey delivered by the male, who does most or all of the foraging. The eggs usually hatch in early May (Ganey 1988). Females brood their young almost constantly, leaving their nests for only brief periods during the night. Nestling owls fledge from four to five weeks after hatching, from early to mid-June in most cases (Ganey 1988). Owlets often leave the nest before they can fly, simply jumping from the nest onto surrounding tree branches or the ground. Within a week after leaving the nest, most owlets can make short, clumsy flights. Three weeks after leaving the nest owlets can hold and tear up prey on their own, and by late July most have become proficient at pouncing on crawling insects (Forsman et al. 1984). The young depend on their parents for food during the summer and will eventually disperse out of the natal area in the fall. Reproductive output varies both spatially and temporally (White et al. 1995), but may be higher than the California and the Northern spotted owl (Verner et al. 1992, Thomas et al. 1993).

Forsman et al. (1976) described spotted owls as "perch and pounce" predators. They typically locate prey from an elevated perch by sight or sound, then pounce on the prey and capture it with their talons. Spotted owls have also been observed capturing flying prey such as birds and insects (Verner et al. 1992). Specific prey groups include: woodrats, mice, voles, rabbits, gophers, bats, birds, reptiles, and arthropods. Spotted owls dwelling in canyons of the Colorado Plateau take more woodrats, and fewer birds, than do spotted owls from other areas.

Mortality factors include predation, starvation, and accidents. Little is known about how disease and parasites contribute to mortality of spotted owls. Avian predators include great horned owls,

northern goshawks, red-tailed hawks, and golden eagles. The extent of predation is unknown; however both juveniles and adults are preyed upon (Willey 1993). Starvation may result from low abundance or availability of prey. Most instances of starvation occurred from late fall through winter when prey resources were reduced in abundance and availability (Willey 1993, Block and Ganey, unpub. data). Starvation may also predispose individuals to increased predation. Little data is available on frequency of accidents, and subsequent mortality. Instances of spotted owls being hit by cars have been documented. Owls may also collide with power lines or other obstacles (USFWS 1995).

Based on limited study information, annual survival rates of adult Mexican spotted owls is 0.8-0.9 and juvenile survival is 0.06-0.29 (USFWS 1995). Survival estimates may be biased low, but conclude higher survival of adults than juveniles. Available data is either insufficient or has not been analyzed to estimate population trends.

Status and Distribution

The Mexican spotted owl (*Strix occidentalis lucida*) was listed as a threatened species on March 16, 1993 (58 FR 14248). The primary threats to the species were cited as even-aged timber harvest and catastrophic wildfire, although grazing, recreation, and other land uses were also mentioned as possible factors influencing the Mexican spotted owl population. The Fish and Wildlife Service appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan for the Mexican Spotted Owl (Recovery Plan) in 1995 (USFWS 1995).

On August 31, 2004, the Service designated approximately 8.6 million acres of critical habitat for the Mexican spotted owl in Arizona, Colorado, New Mexico, and Utah, on Federal lands (69 FR 53181). There are approximately 47,700 acres of designated critical habitat in the decision area on the western boundary adjacent to Zion National Park and southeast of the town of Tropic. However, not all of these acres contain the primary constituent characteristics essential to the conservation of the species. Some of the primary constituent elements for the Mexican spotted owl include: (1) cooler and often more humid conditions than the surrounding area, (2) clumps or stringers of trees and/or canyon walls with crevices, ledges or caves, (3) high percent of ground litter and woody debris, and (4) riparian or woody vegetation. The primary constituent elements related to forest structure include (1) a range of tree species, (2) a shade canopy created by the tree branches covering 40 percent or more of the ground, and (3) large dead trees with a trunk diameter of at least 12 inches (69 Federal Register 53181-5398).
It is important to note that critical habitat is not the only suitable or occupied habitat available for owls. Critical habitat is only a regulatory delineation of habitat meeting primary constituent elements, and was defined based on known localities of nest sites (Protected Activity Centers; PACs) at the time of designation.

The primary constituent elements of the critical habitat designation include those physical and biological features that support nesting, roosting, and foraging. Vegetation communities and structural attributes used by the owl vary across the range of the subspecies, but consist primarily of mixed conifer forests or canyons. The mixed-conifer, pine-oak communities and canyon habitat appear to be the most frequently used communities throughout most portions of the

subspecies' range (Skaggs and Raitt 1988; Ganey and Balda 1989, 1994; Gutierrez and Rinkevich 1991; USFWS 1995). In Utah, owls utilize canyon habitats (Willey 1998).

Primary constituent elements related to critical habitat in Utah include one or more of the following: (1) presence of water (often providing cooler temperatures and higher humidity than the surrounding areas); (2) clumps or stringers of mixed conifer, pine-oak, pinyon-juniper, and/or riparian vegetation; (3) canyon walls containing crevices, ledges, or caves; and (4) high percent of ground litter and woody debris. The primary constituent elements provide a qualitative description of those physical and biological features necessary to ensure the conservation of the owl in Utah (69 FR 53181).

Although the Mexican spotted owl's entire range covers a broad area of the southwestern United States and Mexico, the Mexican spotted owl does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older uneven-aged forests but also is known to inhabit a physically diverse landscape in the southwestern United States and Mexico. Owls can be found in forested mountains and canyons from southern Utah and Colorado to the mountains of Arizona, New Mexico, western Texas, and into the mountains of northern and central Mexico.

Steep-walled rocky canyonlands provide typical owl habitat within the Utah portion of the Colorado Plateau Recovery Unit. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by vertical walled rocky cliffs within complex watersheds, including many tributary side canyons. Rock walls must include caves, ledges, and fracture zones that provide protection for nesting and roosting sites. Breeding sites are located below canyon rims; however, it is known that owls use areas outside of the canyons (i.e., rims and mesa tops). Owls nest and roost primarily on cliff faces using protected caves and ledges, and forage in canyon bottoms, on cliff faces and benches, and along canyon rims and adjacent lands. Although it is difficult to rely upon vegetation alone to identify canyon habitat, these areas frequently contain small clumps or stringers of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and/or riparian vegetation (69 FR 53181). Little is known about patterns of habitat use by foraging owls. Willey (1998) documented owl use in Utah to include canyon bottoms and adjacent rims.

Colorado Plateau canyon habitats in Utah are naturally discontinuous and may explain the patchy locations of owls in the region. A study conducted in Zion National Park found owls nesting and roosting in humid, narrow canyons with dense understories (Rinkevich 1991). These canyons provide large cliffs with escape cover to avoid predation, shaded roost sites to avoid high summer temperatures, patches of forest vegetation, and availability of suitable prey.

Historic population size estimates and range of the Mexican spotted owl are unknown; however present population size and distribution are thought to be similar (USFWS 1995). Ninety-one percent of known owls in 1990-1993 occurred on U.S. Forest Service lands, primarily in Arizona and New Mexico. It is unknown why there are fewer owls in Utah and Colorado, but that may be a function of habitat type. Total range wide population estimates are 1,176 to 2,352 owls (69FR 53181, August 31, 2004). Seamans et al. 1999 reported 10 percent or greater population

declines and low survival rates in central Arizona and west-central New Mexico. Gutierrez et al. (2003) documented that the decline in New Mexico was continuing, whereas the decline in Arizona appeared to have stabilized. Wide population fluctuations may be common for Mexican spotted owls (Gutierrez et al. 2003).

Environmental Baseline

Status of the Species within the Action Area

Dr. David Willey and Dan Spotskey modeled Mexican spotted owl habitat based on vegetation type, slope, elevation, aspect, and other factors in 1997 and 2000 (Willey and Spotskey 1997, 2000). Both the 1997 model and the 2000 model are used within Utah to identify potential habitat. Any projects that occur within the modeled potential habitat should be verified for actual habitat suitability and, if appropriate, surveys according to protocol should be conducted to determine if Mexican spotted owls occupy the area. The Mexican spotted owl occurs in the eastern and southern thirds of Utah, including Garfield and Kane counties (UDWR 2003).

The Mexican Spotted Owl Recovery Plan was finalized in 1995. Six Recovery Units in the United States were identified based on similarities, or obvious dividing lines, between the following: physiographic provinces, biotic regimes, perceived threats to habitat or individual birds, administrative boundaries, and owl distribution. Suitable habitat and designated critical habitat on public lands managed by the BLM in Utah are within the Colorado Plateau Recovery Unit (USFWS 1995). Five critical habitat units have been delineated in Utah, including the following units which are located in or adjacent to the planning area:

Unit CP–11. This unit is located in Iron, Washington, and Kane Counties in southwest Utah, approximately 22 mi (35 km) northeast of St. George. About half of the unit is on BLM owned lands; Zion National Park is the other land owner.

Unit CP–12. This Unit is in the vicinity of the Kaiparowits Plateau and the Cockscomb, in Kane and Garfield Counties. This unit is primarily on the Grand Staircase-Escalante National Monument, which is owned and managed by the BLM. The other land owner is the Forest Service (Dixie National Forest).

Unit CP–13. This unit occurs in Wayne, Garfield, Kane, and San Juan Counties, Utah. It is primarily in the Waterpocket Fold landform extending to Lake Powell. The primary land owner in this Unit is the National Park Service (Capitol Reef National Park and Glen Canyon National Recreation Area). The BLM owns and manages lands within this unit primarily on the Grand Staircase-Escalante National Monument and along the eastern edge of the Unit. The Forest Service (Fishlake National Forest) also owns land, but to a much lesser extent.

Unit CP–14. This Unit lies in Wayne, Garfield, San Juan, and Grand Counties, Utah. It includes the Dark Canyon Primitive and Wilderness areas of the BLM and FS, respectively. This Unit has lands owned and managed by the National Park Service

(Canyonlands National Park and Glen Canyon National Recreation Area), the BLM, and the Forest Service (Manti La-Sal National Forest).

Unit CP–15. This unit is located approximately 30 mi (48 km) east of Price, in Carbon and Emery Counties. Situated in the West Tavaputs Plateau, it is located largely along the Desolation Canyon area of the Green River. The BLM is the primary owner and manager of land within this unit.

It is important to note that critical habitat is not the only suitable or occupied habitat available for owls. Critical habitat is only a regulatory delineation of habitat meeting primary constituent elements, and was defined based largely on known localities of nest sites (Protected Activity Centers; PACs) at the time of designation. There is substantial suitable habitat that occurs outside of the designated critical habitat boundaries and these should be assessed using the models and field evaluations as previously described.

Designated critical habitat, suitable habitat, and PACs occur within the Kanab BLM Field Office. There are approximately 47,700 acres of Unit CP-11 designated critical habitat in the decision area on the western boundary adjacent to Zion National Park and southeast of the town of Tropic. This includes two PACs on BLM lands, one overlapping Zion National Park and one in Water Canyon.

Factors Affecting Species Environment within the Action Area

Threats to this species and its habitat include recreation, grazing, oil and gas exploration and development, and road improvement and development within canyons; loss, fragmentation, or modification of habitat from catastrophic fire and timber harvest within upland forests potentially used for foraging, dispersal, and wintering; and increased predation associated with habitat fragmentation (USFWS 1995).

Effects of the Action

Soil Resources Management

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Potential adverse impacts to Mexican spotted owl suitable and designated critical habitat may result from land treatments occurring within watersheds. Many of these activities are meant to benefit soil resources and watersheds by reducing soil loss and reclaiming surface disturbances or unnecessary roads. However, activities occurring under this program may also increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, and surface disturbance in Mexican spotted owl habitat. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, foraging, and

roosting behaviors; decreased nesting habitat; and decreased prey habitat. Long-term benefits may include increased nesting success, increased prey abundance, and increased survival.

Water Resources Management

Program objectives are to protect, maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards. Potential activities occurring under this program include monitoring and treating soil erosion, evaluating and restricting surface development, monitoring water quality, applying soil management practices, and applying seasonal closures. Field activities may involve use of heavy machinery and hand tools to develop (closely linked management with Riparian Resources Program Management) riparian/wetland exclosures; stream crossings to allow for appropriate sediment and flow passage; and other stream improvements.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, and surface disturbance in Mexican spotted owl habitat. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, foraging, and roosting behaviors; decreased cover from predators and increased predation; decreased nesting habitat; and decreased prey habitat. Long-term benefits may include increased nesting success, increased prey abundance, and increased survival.

Vegetation Management

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance (mechanical, chemical, biological), and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation alteration, removal, or inadvertent chemical treatment may adversely affect availability and quality of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey species habitat. As a result, there may be site-specific decreases in nest initiation or nesting success, and increased adult and owlet mortality.

Fish and Wildlife Species Management

This program aims to maintain biological diversity, improve habitat for wildlife and fisheries, and provide habitats for threatened and endangered species.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in Mexican spotted owl habitat. Noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, increase sediment deposits, and habitat for prey species. Short-term adverse impacts may include, but not be limited to: fragmented prey habitat; decreases in nest initiation or nesting success; and decreased adult and owlet fitness; and alterations of water distribution within occupied habitat of the Mexican spotted owl. In general, long-term efforts to improve the health of riparian habitats may benefit Mexican spotted owls by increasing prey abundance.

Wildland Fire Management

Objectives of fire management are to protect life, property, and resources values from wildfire and restore the natural role of fire in the ecosystem. Major activities associated with the BLM's fire management program include: wildfire suppression, wildland fire use, prescribed burning, non-fire fuels treatments (mechanical and chemical), and emergency stabilization and rehabilitation following wildfires. Fire suppression methods may involve: fireline construction, use of fire suppression agents and retardants, and water withdrawals.

Activities occurring under this program may increase human presence and equipment and vehicle use (with increased noise disturbance), vegetation treatment or disturbance, decreases in local air quality, and surface disturbance in Mexican spotted owl habitats. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, roosting, or foraging activities. Vegetation disturbances or vegetation removal may decrease prey habitat and prey abundance. Soil disturbances and increased erosion may indirectly decrease abundance of prey. Localized effects from smoke may adversely affect owlets or displace owls. As a result of these impacts, there may be site-specific decreases in nest initiation or nesting success, and increased owlet and adult mortality.

Potential impacts from wildland fire use and prescribed fire would be similar to those from wildfire suppression. Non-fire fuels treatments and emergency stabilization and rehabilitation following wildfires may be used to retain or improve range conditions and maintain lower fuel loads in grassland and sagebrush habitats. Negative short term impacts include harassment or displacement; or immediate post-project alteration of key prey habitat components from surface disturbance. Additionally, these fire management activities could benefit prey populations of Mexican spotted owls in the long-term due to improved forage quality and quantity.

Cultural Resources Management

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment use (including associated auditory or visual disturbances), and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of spotted owls during breeding, nesting, roosting, or foraging efforts. Vegetation disturbances or removal associated with cultural resources excavations may reduce availability of prey habitat and prey abundance, at least in the short term. As a result, there may site-specific be decreases in nest initiation or nesting success, and displacement. These effects are likely to be short-term and relatively small scale due to the type of activity.

Paleontological Resources Management

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment use (including associated auditory or visual disturbances), and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of spotted owls during breeding, nesting, roosting, or foraging efforts. Vegetation disturbances or removal associated with cultural resources excavations may reduce availability of prey habitat and prey abundance, at least in the short term. As a result, there may site-specific be decreases in nest initiation or nesting success, and displacement. These effects are likely to be short-term and relatively small scale due to the type of activity.

Forestry and Woodland Products

The forest management program permits commercial timber harvest in order to promote forest health, and manages the commercial, non-commercial, and Native American harvest of woodland products including posts, Christmas trees and fuel wood.

Forest resources support activities such as road construction that may occur in or near existing or suitable Mexican spotted owl habitat. However, the impacts of these activities are analyzed and authorized by the lands and realty program.

Activities occurring under this program may increase human presence and equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance near or in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or chemical treatment of vegetation may adversely affect prey habitat and prey availability, and therefore, adversely affect Mexican spotted owls and their young. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat and prey abundance. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for Mexican spotted owl prey species. As a result, there may be decreases in nest initiation or nesting success, and decreased adult and owlet fitness.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

Range management activities may include vegetation treatments such as prescribed fire, mechanical and chemical control of noxious weeds, sagebrush and other target species. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management). Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities.

There are four primary ways livestock manipulate habitats to favor/hinder wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Activities occurring under this program may increase human presence (including associated noise disturbances), vegetation disturbance, and minor surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or vegetation alteration may result in less dense vegetation, more invasive plant species, fragmented prey habitat and adverse affects to availability of prey habitat and prey abundance. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. As a result, there may be decreases in nest initiation or nesting success, and increased adult and owlet mortality.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Authorized activities under this program have the potential to increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect the availability and quality of prey habitat and prey abundance. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. Increased occurrence of invasive

plants species may change the vegetation community and change the habitat for Mexican spotted owl prey species. As a result, there may be decreases in nest initiation or nesting success, and increased adult and owlet mortality.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Construction of power lines or other infrastructure may result in electrocutions, entanglements, or collisions with flying birds, resulting in possible mortality. Vegetation disturbances or vegetation removal may adversely affect availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for Mexican spotted owl prey species. Exchange or sales of lands may lead to habitat fragmentation and loss. As a result, there may be decreases in nest initiation or nesting success, and decreased adult and owlet fitness.

Minerals and Energy Management

The planning area will be open to consideration for exploration, leasing, and development of leasable minerals (oil, gas, coal, oil shale, and geothermal), and salable minerals (sand, gravel, sandstone, shale, limestone, basalt, and granite rock). Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. Mineral exploration and extraction often results in surface disturbance from road and facility construction, removal of topsoil and overburden, stock piling of these materials, and post-mining reclamation and recontouring.

These occurrences may increase human presence, noise disturbance, vegetation disturbance or removal, soil disturbances, invasive plant species, and pollutants in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of quality and quantity of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and decrease prey habitat. Some ancillary equipment associated with energy development (e.g., transmission lines, oil pits) may result in direct mortality of owls if they become impinged on the lines or caught in the pits. Increased

occurrence of invasive plants species may change the vegetation community and change the habitat for Mexican spotted owl prey species. Pollutants in the area may affect Mexican spotted owls through adverse effects to prey populations. As a result of these impacts, there may be decreases in nest initiation or nesting success, and decreased adult fitness.

Special Designations Management – Other designations

Program objectives are to ensure continued promotion, protection and management of National and Utah Scenic Byways and Backways, and preservation of the Old Spanish National Historical Trail. This includes construction of road pullouts and information kiosks, and other interpretative materials.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits, and decrease prey habitat quality. Short-term, site-specific adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, and foraging behaviors; decreased nesting success; and decreased insect prey habitat and prey abundance for Mexican spotted owls.

Hazardous Materials and Public Safety

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Mineral developments, pipelines, and roads occur within all of the planning areas analyzed in this document, and have some potential to occur in Mexican spotted owl habitat. Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in Mexican spotted owl habitat. Associated noise disturbances may adversely affect the behavior of Mexican spotted owls during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely impact prey habitat. As a result, there may be decreases in nest initiation or nesting success, and increased adult and owlet mortality.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future

Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to the Mexican spotted owl and designated critical habitat under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' critical, suitable, or potential habitat.
- Encroachment of human development into a species' critical, suitable, or potential habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah
    - County Governments in Utah
    - Local Governments in Utah
    - Private landholders in Utah

Mexican spotted owls occur throughout the action area, generally as year-around residents (Ganey and Block 2005). In these areas, Mexican spotted owls locations are surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Mexican spotted owls are susceptible to activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private lands within the Mexican spotted owl's range. Contributing as cumulative effects to the proposed action, these activities will continue to affect Mexican spotted owls' productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting habitat of prey populations.

Conclusion

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including the resource protection measures that were incorporated into the project design.

After reviewing the current status of the Mexican spotted owl and its critical habitat, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the Mexican spotted owl, and is not likely to destroy or adversely modify designated critical habitat. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

Southwestern willow flycatcher (*Empidonax traillii extimus*)

Status of Species

Species/Critical Habitat Description

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a small passerine bird associated with riparian habitats and a subspecies of *Empidonax traillii*. This species was listed as endangered under the Endangered Species Act of 1973, as amended (ESA), on February 27, 1995 (USFWS 1995). On October 19, 2005, 120,824 acres of critical habitat were designated for southwestern willow flycatchers across Arizona, New Mexico, California, Nevada, and Utah (USFWS 2005). Within Utah, critical habitat was only designated along the Virgin River in Washington County, an area not part of this consultation. Therefore, there will not be any further mention of critical habitat for southwestern willow flycatchers in this consultation.

The southwestern willow flycatcher is a small bird, approximately 15 centimeters (cm) (5.75 inches) long. It has a grayish-green back and wings, whitish throat, light grey-olive breast, and pale yellowish belly. Two wing bars are visible; the eye ring is faint or absent. The upper mandible is dark, the lower is light. The southwestern willow flycatcher is one of four currently recognized subspecies of the willow flycatcher (*E. trailli*) (Hubbard 1987; Unitt 1987; Sogge 2000; USFWS 2001 and 2002). The *E. t. extimus* subspecies was first described by Phillips (1948) and later re-evaluated and accepted as a subspecies by Unitt (1987) and Browning (1993).

The *E. t. extimus* is paler than the other willow flycatcher subspecies and also differs in morphological characteristics: e.g., wing: tail ratio, wing formula; and bill length (Unitt 1987 and 1997; Browning 1993; USFWS 2001 and 2002). These differences are difficult to distinguish and are not reliable characteristics for field identification. The characteristic song of willow flycatcher species is often referred to as a *"fitz-bew"*. Travis (1996) and Sedgwick (1998 and 2001) suggest that clinal variations in willow flycatcher songs also serve to distinguish between subspecies, but this too is unreliable as a definitive field identification tool. In southern Utah, southwestern Colorado, and perhaps New Mexico, clinal gradations of the *E. t. extimus* and Great Basin/Rocky Mountain willow flycatcher (*E. t. adastus*) are thought to occur (USFWS 2002). Phillips et al. (1964) suggested that the *E. t. extimus* may be typical of lower elevations, and in northern parts of its range (including Utah), clinal gradation with the Great Basin subspecies may exist with increasing elevation and latitude. Recent research (Paxton 2000) concluded that the *E. t. extimus* is genetically distinct from the other willow flycatcher species. However, clinal gradation increases the difficulty of subspecies identification without genetic testing.

Life history and Population dynamics

Male southwestern willow flycatchers generally arrive at breeding grounds first, with females typically arriving a week or two later. Males are usually monogamous, but polygamy has been recorded (Sogge et al. 1997). Nests are usually built within a week of pair formation. Egg-laying begins as early as May but typically occurs in mid-June. The female provides initial care of the nestlings, the role of the male increases with the age and size of the young. Young typically fledge at 12 to 15 days of age, usually between June and mid-August. Second clutches are common if the first attempt is unsuccessful. Territory size varies among the southwestern willow flycatcher, probably due to differences in population density, habitat quality, and nesting stage.

Open, cup-shaped nests are typically constructed in the fork of a branch. Historically, most southwestern willow flycatcher nests (75-80%) were constructed in willows. Currently, the species nests in a variety of plant species, including exotic species such as tamarisk.

Information on breeding site fidelity and persistence is limited. Studies of banded birds (Whitfield and Strong 1995; Whitfield and Enos 1996) report varying rates of nestlings returning to study sites to breed. Sogge and Tibbits (1994) reported the return of breeding populations to sites that had been unoccupied for several years, indicating that a habitat cannot be assumed unsuitable or unoccupied in the long term based on absence of southwestern willow flycatchers during a single year.

The southwestern willow flycatcher breeds in different types of dense riparian habitats across a large elevational and geographic area. Although the other willow flycatcher subspecies may breed in shrubby habitats away from water, the southwestern willow flycatcher breeds in patchy to dense riparian habitats along streams or other wetlands, near or adjacent to surface water or underlain by saturated soil. Occupied southwestern willow flycatcher sites consist of dense vegetation in the patch interior that is generally 3 to 4 m (10 to 13 ft) above ground, or in aggregates of dense patches interspersed with openings. Saturated soil is present at or near the breeding site during wet or non-drought years (Sogge et al. 1997, Sogge and Marshall 2000, USFWS 2001 and 2002). Rangewide, common tree and shrub species comprising nesting habitat include willows (*Salix* spp.), seepwillow or mulefat (*Baccaharis* spp.), box elder (*Acer negundo*), stinging nettle (*Urtica* spp.), blackberry (*Rubus* spp.) cottonwood (*Populus* spp.) arrowweed (*Tessaria sericea*), tamarisk or saltcedar (*Tamarix ramosissima*), and Russian olive (*Elaeagnus angustifolia*). Dominant plant species, size and shape of habitat patch, canopy structure, vegetation height, etc., vary widely across the *E. t. extimus*'s range. In Utah, the southwestern willow flycatcher is typically found in mixed native and exotic riparian species habitats, generally dominated by coyote willow, tamarisk and Russian olive (Johnson et al. 1999a and 1999b).

Little specific information is known about migration and wintering ecology of the southwestern willow flycatcher (Yong and Finch 1997, Finch et al. 2000). Willow flycatchers (all subspecies) breed in North America, but winter in Mexico, Central America, and possibly northern South America (Phillips 1948, Stiles and Skutch 1989, Ridgely and Tudor 1994, Howell and Webb 1995, Sogge et al. 1997).

Status and distribution

The historical breeding range of the southwestern willow flycatcher included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico (Hubbard 1987; Unitt 1987; Browning 1993; USFWS 2002). The flycatcher's current range is similar to the historical range, but the quantity of suitable habitat within that range is much reduced from historical levels. The flycatcher occurs from near sea level to over 2600 m (8500 ft), but is primarily found in lower elevation riparian habitats (USFWS 2002). Throughout its range, the flycatcher's distribution follows that of its riparian habitat; relatively small, isolated, widely dispersed locales in a vast arid region (USFWS 2002 Surveys for the southwestern willow flycatcher have been conducted by the UDWR. The Recovery Plan (USFWS 2002) divides the southwestern willow flycatcher's breeding range into six Recovery Units, which are subdivided into Management Units. Recovery Units are defined based on large watershed and hydrologic units; standardized boundaries of river basin units within the U.S. Within each of the six Recovery Units, multiple Management Units are delineated based on a geographic area representing all or part of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. The outer limits of both the Recovery Unit and Management Unit boundaries are defined by the southwestern willow flycatchers' range (USFWS 2001 and 2002).

The State of Utah falls within the Lower Colorado and Upper Colorado Recovery Units. The Upper Colorado Recovery Unit covers much of the four-corners area of southern Utah, southwestern Colorado, northeastern Arizona, and northwestern New Mexico. The northern boundary of the Upper Colorado Recovery Unit is delineated by the northern range boundary of the southwestern willow flycatcher. Ecologically, this region may be an area of clinal gradation between the southwestern willow flycatcher and the Great Basin willow flycatcher. The Lower Colorado Recovery Unit is a geographically large and ecologically diverse Recovery Unit, encompassing the Colorado River and its major tributaries, from Glen Canyon Dam downstream to the Mexico border (USFWS 2001 and 2002).

As previously discussed, recent genetic work (Paxton 2000) verified *E. t. extimus* genetic stock in the San Luis Valley of south-central Colorado and the Virgin River in Utah. Paxton's (2000; as cited in USFWS 2002) research showed that the northern boundary for southwestern willow flycatchers was generally consistent with that proposed by Unitt (1987) and Browning (1993), and subsequently used in the Final Recovery Plan (USFWS 2002). Paxton's (2000) research further illustrated that the willow flycatcher in central Utah does not have the genetic markers of *E. t. extimus* and is more closely related to *E. t. adastus*. However, because of the absence of flycatchers in the lower- to mid-elevations of the Colorado Plateau in southern Utah and southwestern Colorado, Paxton (2000; as cited in USFWS 2002) did not address potential sub-specific differences resulting from elevation or habitat differences and watershed boundaries. Analysis of willow flycatcher vocalizations in central Utah also suggests association with *E. t. adastus*. The Final Recovery Plan (USFWS 2002) adopts a range boundary that reflects Paxton's (2000) and Sedgwick's (2001) results; the northern extent of southwestern willow flycatchers is confined to the southern portions of Utah. In the Recovery Plan, the USFWS acknowledges that new data may result in refinements to the northern range boundary currently

recognized (USFWS 2002). This is based on the limited genetic information in portions of central and eastern Utah, particularly along major drainages including the Colorado and Green Rivers. Therefore, the USFWS Utah Field Office considers potential distribution for southwestern willow flycatchers to possibly extend further north than the Recovery Plan boundary.

The reasons for the decline of the southwestern willow flycatcher and current threats to its conservation are numerous, complex and inter-related (USFWS 2001, 2002). The major factors threatening the species include habitat loss and modification; invasion of breeding habitats by exotic plant species; brood parasitism by brown-headed cowbirds; the vulnerability of small southwestern willow flycatcher population numbers; and stresses that occur to the species during migration and in wintering habitats. These factors vary in severity over the southwestern willow flycatcher's range, and several are likely to have cumulative and synergistic effects (USFWS 1997).

For more information regarding the life history and population dynamics, see the Final Recovery Plan for the Southwestern Willow Flycatcher (USFWS 2002).

Environmental Baseline

Status of the Species within the Action Area

E. t. extimus may have always been rare in southern Utah (Behle pers. comm. cited in Unitt 1987). However where habitat existed along the Colorado River and its tributaries in southeastern Utah, it was thought to be a locally common breeding and migratory resident (Behle and Higgins 1959). Few data are available on population trends in southern Utah. However, loss and modification of habitat is likely to have reduced populations on the Virgin, Colorado, and San Juan Rivers. These losses have been due to suburban expansion and habitat changes along the Virgin River, inundation by Lake Powell on the Colorado and San Juan Rivers, and encroachment of tamarisk throughout the region (Unitt 1987; BLM unpublished data).

Historically, the southwestern willow flycatcher occurred in the following river systems: Colorado, Kanab Creek, San Juan, Virgin, and perhaps Paria (Phillips 1948, Behle et al. 1958, Behle and Higgins 1959, Wauer and Carter 1965, Behle 1985, Browning 1993, USFWS 2002). The flycatcher also bred along the Virgin River in the St. George area (Behle et al. 1958), and along the San Juan River (Unitt 1987).

In the Kanab Field Office action area and adjacent areas, a variety of acceptable habitats were surveyed including areas along the Escalante River, Paria River, and Kanab Creek (UDWR 2000). The surveys determined that extremely low water levels and grazing pressure were suspected to have excluded the southwestern willow flycatcher from Kanab Creek and Paria River (UDWR 2000). "Availability of suitable southwestern willow flycatcher habitats in the Kanab region is seriously limited by dry conditions, narrowness of existing riparian zones, grazing and the presence of brown headed cowbirds" (UDWR 2000). It was determined that the Kanab BLM Field Office area provides stop over habitat for the species. However, populations are limited primarily by the availability of suitable breeding habitats.

Factors Affecting Species Environment within the Action Area

Southwestern willow flycatchers may have always been rare in southern Utah (Behle pers. comm. cited in Unitt 1987). However where habitat existed along the Colorado River and its tributaries in southeastern Utah, it was thought to be a locally common breeding and migratory resident (Behle and Higgins 1959). Recent surveys conducted by Sogge et al. (2003) and Durst et al. (2005) have found a few breeding locations and territories in southern Utah. Little population trend data are available in Utah. However, loss and modification of habitat is likely to have reduced populations on the Virgin, Colorado, and San Juan Rivers. These losses have been due to suburban expansion and habitat changes along the Virgin River, inundation by Lake Powell on the Colorado and San Juan Rivers, and encroachment of tamarisk throughout the region (Unitt 1987, BLM unpublished data).

The main threats to the species have been attributed to loss, modification, and fragmentation of riparian breeding habitat, loss of wintering habitat, and brood parasitism by the brown-headed cowbird (Whitfield 1990; Sferra et al. 1995; Sogge et al. 1997; McCarthey et al. 1998; USFWS 2002). The southwestern willow flycatcher and its habitat are threatened by urban, recreational, and agricultural development, water diversion and groundwater pumping, channelization, dams, and livestock grazing (USFWS 2002). Fire is an increasing threat to southwestern willow flycatcher habitat (Paxton et al. 1996), especially in monotypic salt cedar vegetation (DeLoach 1991) and where water diversions and/or groundwater pumping desiccates riparian vegetation (Sogge et al. 1997).

Floodplains and associated riparian vegetation were once dominated by a wide band of trees, principally cottonwood and willows (Horton 1977). Arrowweed and mesquite were dominant in many upland areas (Horton 1977). Graf (1982) reports that tamarisk was introduced into the United States in the early 1800s and into the American Southwest by 1856. From 1925 through 1960, tamarisk rapidly spread throughout Utah with the greatest degree of invasion occurring from 1935 to 1955 (Christensen 1962). Tamarisk changes channel morphology from braided, shallow systems to ones that are constrained, centralized, and deeper. Dense tamarisk vegetation reduces the channel capacities of normal flow events and has been cited as the cause of disastrous flooding (Graf 1982). Southwestern willow flycatcher habitat may be very vulnerable to the changes tamarisk invasion brings about in stream morphology and ecology. The effects of tamarisk to breeding southwestern willow flycatchers may not be as apparent as the effects to their habitat. Owen and Sogge (2002) studied 12 parameters of physiological condition of 130 southwestern willow flycatchers in native vegetation and tamarisk and found no evidence that flycatchers breeding in tamarisk exhibit poorer nutritional condition or are suffering negative physiological affects. However, breeding success and the number of species supported within a tamarisk stand is reduced (Anderson et al. 1977).

Effects of the Action

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, stream alteration, and minor surface disturbance in southwestern willow flycatcher habitat. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, and foraging behaviors; decreased nesting habitat; decreased cover from predators and increased predation; insect prey habitat; and alterations of water distribution within occupied habitat for southwestern willow flycatchers. Long-term benefits may include: increased nesting success, increased insect prey abundance, and decreased predation.

Water Resources

Program objectives are to protect, maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards. Potential activities occurring under this program include monitoring and treating soil erosion, evaluating and restricting surface development, monitoring water quality, applying soil management practices, and applying seasonal closures. Field activities may involve use of heavy machinery and hand tools to develop (closely linked management with Riparian Resources Program Management) riparian/wetland exclosures; stream crossings to allow for appropriate sediment and flow passage; and other stream improvements.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, stream alteration, and minor surface disturbance in southwestern willow flycatcher habitat. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, foraging, and roosting behaviors; decreased nesting habitat; decreased cover from predators and increased predation; insect prey habitat; and alterations of water distribution within occupied habitat for southwestern willow flycatchers. Long-term benefits may include: increased nesting success, increased insect prey abundance, and decreased predation.

Vegetation Resources

Program objectives are to maintain or improve the diversity of plant communities to support livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing

activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance (mechanical, chemical, biological), and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation alteration, removal, or inadvertent chemical treatment may adversely affect availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease insect prey populations. Release of biological control agents may have site-specific and wide ranging effects that may need to be further considered (refer to the Reinitiation Section of this BO) dependent in part on the release organism, e.g., salt cedar leaf beetle. Soil disturbances may increase erosion, adversely affect soil stability, increase sediment deposits, and alter channel morphology. There is some potential for vegetation removal to result in nestling mortality; however implementation of the applicant committed conservation measures should greatly minimize this potential. As a result, there may be decreases in nest initiation or nesting success, and increased adult mortality. Long-term benefits may include: increased nesting success, increased insect prey abundance, and decreased predation.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat on for wildlife and fisheries, and provide habitats for threatened and endangered species.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of nesting habitat, cover from predators, and insect prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, foraging, and roosting behaviors; decreased nesting habitat; decreased cover from predators and increased predation; decreased insect prey habitat; and alterations of water distribution within occupied habitat for southwestern willow flycatchers. In some cases, management activities beneficial for one species may be detrimental to another species. In general, long-term efforts to improve the health of riparian habitats may benefit southwestern willow flycatchers by increasing nesting success, increasing insect prey abundance, and decreasing predation.

Wildland Fire Management

Objectives of fire management are to protect life, property, and resources values from wildfire and restore the natural role of fire in the ecosystem. Major activities associated with the fire management program include: wildfire suppression, wildland fire use, prescribed burning, non-fire fuels treatments (mechanical and chemical), and emergency stabilization and rehabilitation

following wildfires. Fire suppression methods may involve fireline construction, use of fire suppression agents and retardants, and water withdrawals.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal decrease availability of nesting habitat; decrease cover from predators and increase predation; and decrease prey habitat. As a result, there may be decreases in nest initiation or nesting success, and increased nestling and adult mortality.

Potential impacts from wildland fire use and prescribed fire would be similar to those from wildfire suppression. Non-fire fuels treatments and emergency stabilization and rehabilitation following wildfires may be used to retain or improve range conditions and maintain lower fuel loads in grassland and sagebrush habitats. Negative impacts include harassment or displacement; or immediate post-project alteration of adjacent habitat from surface disturbance.

Long-term benefits of this program, as vegetation is reestablished, may include increased nesting success, increased insect prey abundance, and decreased predation.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in southwestern willow flycatcher habitat. Noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging efforts. Vegetation disturbances or removal may decrease the availability of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. As a result, there may be decreases in nest initiation or nesting success. There is some potential for vegetation removal to result in nestling mortality.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in southwestern willow

flycatcher habitat. Noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging efforts. Vegetation disturbances or removal may decrease the availability of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. As a result, there may be decreases in nest initiation or nesting success. There is some potential for vegetation removal to result in nestling mortality.

Forestry and Woodland Products Resources

The forest management program permits commercial timber harvest in order to promote forest health, and manages the commercial, non-commercial, and Native American harvest of woodland products including posts, Christmas trees and fuel wood.

Forest resources support activities such as road construction may occur in or near existing or suitable southwestern willow flycatcher habitat. Impacts associated with these activities are described under the Lands and Realty Program effects analysis.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or chemical treatment of vegetation decrease availability of nesting habitat; decrease cover from predators and increase predation; and decrease prey populations and prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for southwestern willow flycatchers and their prey species. As a result, there may be decreases in nest initiation or nesting success, and decreased adult fitness. There is some potential for vegetation removal to result in nestling mortality; however implementation of the applicant committed conservation measures should greatly minimize this potential.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

Range management activities may include vegetation treatments such as prescribed fire, mechanical and chemical control of noxious weeds, sagebrush and other target species. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management). Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities.

There are four primary ways livestock manipulate habitats to favor/hinder some wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Activities occurring under this program may increase human presence (including associated noise disturbances), vegetation disturbance, and minor surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or vegetation alteration may result in less dense vegetation; an increase in invasive plant species; increased fragmented habitat; reduced availability of nesting habitat; decreased cover from predators and increased predation; and decreased availability prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. As a result, there may be decreases in nest initiation or nesting success, and decreased adult fitness. There is some potential for vegetation removal, particularly prescribed fire, to result in nestling or adult mortality; however implementation of the applicant committed conservation measures should minimize this potential.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Authorized activities under this program have the potential to increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for southwestern willow flycatchers and their prey species. As a result, there may be decreases in nest initiation or nesting success, and increased adult mortality.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations,

sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for southwestern willow flycatchers and their prey species. Exchange or sales of lands may lead to fragmentation and loss of the species suitable habitat. As a result, there may be decreases in nest initiation or nesting success, and decreased adult and nestling fitness.

Minerals and Energy Management

The planning area will be open to consideration for exploration, leasing, and development of leasable minerals (oil, gas, coal, oil shale, and geothermal), and salable minerals (sand, gravel, sandstone, shale, limestone, basalt, and granite rock). Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. Mineral exploration and extraction often results in surface disturbance from road and facility construction, removal of topsoil and overburden, stock piling of these materials, and post-mining reclamation and recontouring.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), surface disturbance, and increased occurrence of chemical leaks in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for southwestern willow flycatcher and their prey species. Pollutants in the area may affect southwestern willow flycatchers, prey populations, and vegetation. As a result of these impacts, there may be decreases in nest initiation or nesting success, and increased adult and fledgling mortality. Ancillary facilities such as oil pits may result in direct mortality of birds if they forage over or become trapped in the pits.

Hazardous Materials and Public Safety Management

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy

equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Mineral developments, pipelines, roads, and railroad transportation systems occur within all of the planning areas analyzed in this document, and have the potential to occur in southwestern willow flycatcher habitat. Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in southwestern willow flycatcher habitat. Associated noise disturbances may adversely affect the behavior of southwestern willow flycatchers during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators and increase predation; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. As a result, there may be decreases in nest initiation or nesting success, and increased adult mortality.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to federally protected southwestern willow flycatchers under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' suitable or potential habitat.
- Encroachment of human development into a species' suitable, or potential habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah
    - County Governments in Utah
    - Local Governments in Utah
    - Private landholders in Utah

Few southwestern willow flycatcher breeding sites and territories have been found in Utah. However, stop over habitat occurs within the jurisdictional management boundaries of BLM in the Kanab Field Office area. In these areas, southwestern willow flycatcher locations are surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Southwestern willow flycatchers are susceptible to activities on State and private lands. Many of these activities, such as urban growth and development; construction and operation of dams along major waterways; water retention, diversion, or dewatering of springs, wetlands, or streams; recreation; road construction; fuels-reduction treatments; research; grazing activities (including alteration or clearing of native habitats for domestic animals); oil and gas exploration and development; introduction of non-native plant or wildlife species (which can

alter native habitats and alter prey populations); and other associated actions. Increases or changes in cowbird foraging areas (construction of corrals, grazing of domestic stock, placement of bird feeders) and habitat fragmentation may increase the parasitism rate and decrease southwestern willow flycatcher reproduction. Continued and future conversion of floodplain and near shore lands will likely eliminate opportunities to restore floodplains to develop willow flycatcher habitat. Increased recreation, camping, off-road vehicle use, and river trips may harass and disturb breeding birds or impact nesting habitats. Contributing as cumulative effects to the proposed action, these activities will continue to affect southwestern willow flycatcher productivity with disturbances to breeding, nesting, and foraging behaviors and habitat (including areas of designated critical habitat), and further fragmenting habitat.

Conclusion

The conclusions of this biological opinion are based on full implementation of the programs as described in the "Description of the Proposed Action" section of this document, including the conservation measures that were incorporated into the project design.

After reviewing the status of the southwestern willow flycatcher, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's biological opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the southwestern willow flycatcher, and is not likely to destroy or adversely modify designated critical habitat. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

Utah prairie dog *(Cynomys parvidens)*

Status of Species

Species/Critical Habitat Description

The Utah prairie dog (*Cynomys parvidens*) is part of the most social genus in the squirrel family. The Utah prairie dog is the smallest of the five prairie dog species and is endemic to Utah. This species was listed as an endangered species on June 4, 1973 (38 FR 14678), pursuant to the Endangered Species Conservation Act of 1969. In 1979, because of the improved status of the species and population increases on private lands in the Cedar and Parowan Valleys, where Utah prairie dog numbers increased from a census count of 627 in 1976 to 3,699 animals in 1982, the UDWR petitioned the Service to remove the Utah prairie dog from the U.S. List of Endangered and Threatened Wildlife. The UDWR also petitioned the Service to develop a special rule under

section 4(d) of the Endangered Species Act to allow "take" of 5000 animals annually between June 1 and December 31 on agricultural lands in Cedar and Parowan Valleys in Iron County. Upon reviewing all pertinent biological data, the Service determined that the Utah prairie dog was not currently in danger of extinction and published the Final Rule reclassifying the species to threatened with a 4(d) rule on May 29, 1984 (49 FR 22330). In June of 1991, the 4(d) special rule was revised to include all agriculture land throughout the range of the species and to increase the take from 5000 to 6000 animals annually (USFWS 1991b).

A burrowing member of the squirrel family, the Utah prairie dog is one of three species of prairie dogs that live in Utah, all of which are in the subgenera *Leucocrossuromys* or white-tailed prairie dogs. Utah prairie dogs range in color from cinnamon to clay, with dark markings above the eyes and white on the tip of the tail (Pizzimenti, 1975). Adult Utah prairie dogs measure from 12 to 14 inches in length.

Utah prairie dogs forage primarily on grasses and forbs, and tend to select those with higher moisture content (Crocker-Bedford 1976). They often select colony sites in swales where the vegetation can remain moist even in drought conditions (Collier 1975, Crocker-Bedford and Spillet 1981). Vegetation must be short stature to allow the prairie dogs to see approaching predators as well as have visual contact with other prairie dogs in the colony (Collier 1975, Crocker-Bedford and Spillet 1981). Soils need to be well drained for burrow sites. Burrows must be deep enough to protect the prairie dogs from predators as well as environmental and temperature extremes. Utah prairie dogs are found in elevations from 5,400 feet on valley floors up to 9,500 feet in mountain habitats.

Life History and Population Dynamics

Prairie dogs hibernate, ceasing surface activity during the harsh winter months. Adult males usually cease surface activity in September, followed by adult females several weeks later. Juvenile prairie dogs remain active as late as November. It is thought that adult females and juveniles go into hibernation later than males because they require additional time to build the necessary fat stores to maintain them through the winter. Utah prairie dogs are not totally dormant in winter and have been observed above ground during all months of the year. Emergence from hibernation usually occurs in March, and is thought to be triggered by temperature. Mating occurs soon after emergence.

Generally, females give birth to one litter per year, with an average of four young which are born in April after a gestation period of 30 days (Pizzimenti and Collier 1975, Wright-Smith 1978, Mackley et al. 1988). However, Mackley et al. (1988) report that 3% of adult females do not bring a litter above ground each year. Young appear above ground at five to seven weeks of age, are full grown by October of their first year and reach sexual maturity at one year. One half to two thirds of the adult population of the Utah prairie dog is female (Mackley et al. 1988); the skewed sex ratio is attributed to higher mortality rate in young males due to conflicts with adult males (USFWS 1991a).

Utah prairie dogs are organized into social groups consisting of an adult male, several females, and their young (Wright-Smith 1978). The clans are loosely organized with no observable

dominance hierarchy. Similar to *C. gunnisoni*, adult female Utah prairie dogs play the major role in caring for young and warning of danger (Wright-Smith 1978). Geographic boundaries of clans remain fairly constant within a colony, and young prairie dogs are the only ones to regularly cross boundaries. Utah prairie dogs will use common feeding grounds, but still maintain elements of territoriality in those areas (Wright-Smith 1978). Social behaviors, especially socially facilitated vigilance and subsequent warning vocalizations, are extremely important to survival of individuals in colonies and to the overall well-being of the colony, itself.

Predators of Utah prairie dogs include: badgers, coyotes, raptors, fox, and weasels. In an established prairie dog colony, predators do not make a significant impact; conversely they have a huge impact on translocation sites where an established social system or burrow system is not present.

Utah prairie dog populations are susceptible to sylvatic plague (*Yersinia pestis*), a bacterium introduced to the North American continent in the late 1800's (Cully 1993). There is a limited understanding of the variables that determine when sylvatic plague will impact prairie dog populations. Fleas are the vectors that spread the disease and can be brought into the vicinity of a prairie dog colony by a suite of mammals. Plague outbreaks generally occur when populations increase to high densities causing increased stress among individuals and easier transmission of disease between individuals.

Status and Distribution

The species' range, which is limited to the southwestern quarter of Utah, is the most restricted of all four prairie dog species in the United States. As ascertained by Collier (1975), the species distribution was much broader prior to control programs and in the past, extended across the desert almost to the Nevada-Utah state line. At one time, the species was known to occur in approximately 700 sections in 10 areas of southwestern Utah. The total species population was estimated to be 95,000 animals prior to control programs in the 1920's (Turner 1979).

By the 1960's, distribution of the Utah prairie dog was greatly reduced due to a non-native disease (sylvatic plague), poisoning, drought, and human-related habitat alteration resulting from cultivation and poor grazing practices. Studies by Collier and Spillett (1972) indicated that the Utah prairie dog had declined or been eliminated from major portions of its estimated historical range. By 1972, they estimated that there were 3,300 Utah prairie dogs in 37 separate Utah prairie dog colonies.

The decreasing trend in Utah prairie dog counts prior to 1972 appears to have stabilized (Heggen and Hasenyager 1977), though numbers have vacillated greatly (McDonald 1993). Total counts have been as high as 7,400 in the 1989 spring census count (Coffeen 1989) with a low count of 3,500 animals in 1992, largely due to climatic and disease factors (McDonald 1993). Census counts most likely underestimated the total number of adult animals because only 40 to 60 percent of individual prairie dogs are above ground at any one time (Crocker-Bedford 1975). Significant concentrations of Utah prairie dogs presently occur in only three areas: the Awapa Recovery Area, the Paunsaugunt Recovery Area, and the West Desert Recovery Area.

Reestablishment of Utah prairie dog populations on public lands is identified in the Recovery Plan to ensure the continued existence of the species (USFWS 1991). Thus, in 1972, the Utah Division of Wildlife Resources (UDWR) initiated a transplant program to move animals from private agricultural lands to areas of historical occupancy on public lands. Over a 31-year period from 1972 to 2002, over 19,561 Utah prairie dogs were translocated to public land sites (Bonzo and Day 2003). Although initial survival has been limited, the number of Utah prairie dog colonies on public lands has increased. Increases in the known number of active colonies on public land can be attributed to a combination of factors including the translocation program, natural increases, dispersal from existing sites, and discovery of previously unrecorded colonies.

In 1994, the Recovery Implementation Team (RIT) was formed, due in large part to the cooperative efforts of federal and state agencies. In 1997, the RIT developed an Interim Conservation Strategy (ICS) to direct recovery activities including habitat improvement and translocation efforts, as well as direct research activities to further improve conservation and recovery measures. The ICS was intended to supplement the existing Recovery Plan and eventually provide additional data to facilitate a Recovery Plan revision. Federal agencies involved in management of the Utah prairie dog have worked to recover and conserve the Utah prairie dog and its' habitat using the best available information and adaptive management practices.

Rangewide spring survey counts conducted by the UDWR in the spring of 2004 reported 4022 adult Utah prairie dogs (unpublished data, UDWR). Despite the aforementioned public land efforts of establishing new Utah prairie dog colonies and supplementing existing ones, approximately 68% of Utah prairie dogs still occur on private and other non-federal lands (unpublished data, UDWR).

Environmental Baseline

Status of the Species within the Action Area

Utah prairie dog populations and/or suitable habitat occur within the administrative boundaries of BLM's Kanab Field Office. The Utah prairie dog presently occurs in principal concentrations in three recovery areas (Pizzimenti and Collier 1975, USFWS 1991). The project area encompasses portions the Paunsaugunt region along the East Fork and main stem of the Sevier River in Iron, Garfield and Kane counties.

The Paunsaugunt Recovery Area contains 12% of all Utah prairie dogs (UDWR unpublished 2005). This area has been experiencing an overall downward trend since 1993 to present. From 1993 through 2005 spring counts on all lands including private and public, decreased from 2072 to 652 prairie dogs (Division unpublished 2005).

Factors Affecting Species Environment within the Action Area

Utah prairie dog populations are susceptible to sylvatic plague (*Yersinia pestis*) (Cully 1993). Fleas are the vectors that spread the disease and can be brought into the vicinity of a prairie dog colony by a suite of mammals. Plague outbreaks generally occur when populations increase to

high densities causing increased stress among individuals and easier transmission of disease between individuals (USFWS 2007).

Threats to the species include intentional poisoning, shooting, urban development, diseases such as plague, habitat loss and degraded habitat quality, and environmental conditions such as vegetation changes and drought (Crocker-Bedford 1975; Stoddart *et al.* 1975; Collier and Spillett 1975; USFWS 1991). Factors leading to degraded habitat quality arise from land ownership and management practices, including overgrazing and fire suppression. Overgrazing has lead to vegetation changes from grass to shrub; erosion of the swales that were historically occupied by Utah prairie dogs; and lowered water tables which in turn reduces the amount of moisture available for palatable grasses and forbs that supply summer food for Utah prairie dogs (Crocker-Bedford 1975). Habitat loss and poor habitat quality are immediate concerns for the remaining Utah prairie dogs. Most of the species distribution occurs on private lands which are or will be largely developed for agricultural production or housing (USFWS 1991).

Effects of the Action

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Soil resource management actions, such as land treatments and reclamation may provide both beneficial and negative effects to the species. Beneficial effects may be realized in the form of improved soil conditions and improved vegetation. The reclamation of roads and other projects would help reduce the potential for vehicle collisions and reduce the spread of noxious and invasive weeds carried by vehicles and equipment traveling the roads.
Negative effects would be largely short term in nature. Damage to burrows may occur as a result of using heavy equipment for land treatments and rehabilitation projects. Increased human presence may alter Utah prairie dogs behavior reducing the amount of time available for the species to forage and causing an unnecessary expenditure of energy in fleeing and alerting others.

Vegetation Management

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Vegetation management activities have the potential to occur in or near suitable or occupied habitat of the Utah prairie dog. These activities may positively and/or negatively impact Utah prairie dogs and their habitat. Beneficial impacts may include improvements to forage from treatments and reseeding or reduction of grazing or OHV disturbance as a result of fencing.

Potential adverse impacts may include direct mortality of individuals from chemical treatments, increased human presence, and damage to burrows. Chemical treatments and weed spraying have the potential to cause direct mortality and indirect effects to fitness due to poisoning from overspray or chemical drift. Increased human presence (and associated noise and visual stimulation) due to vegetation management activities may result in disturbance and displacement of individuals from occupied habitats, affecting typical activity patterns, foraging and reproductive behavior, and leading to physical distress, decreased health, and/or mortality. Damage to burrows may occur as a result of using heavy equipment for reseeding or mechanical removal of undesirable vegetation. Additionally, surface disturbance activities may result in erosion or degradation of habitat and lead to reduced Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation.

Special Status Species Management

The management objectives of this program are to maintain and improve forage production and quality of rangelands, fisheries, and wildlife habitat, and provide habitat for threatened and endangered and other special status plant and animal species on all public lands in compliance with ESA, BLM policy, and approved recovery plans. Management activities may benefit species through the provision of guidance, monitoring, and conservation measures.

Surface disturbing activities necessary for habitat improvements could destroy existing colony structure and cause direct mortality of individuals. Additionally, surface disturbance may result in erosion or degradation of habitat and lead to reduced Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation. However, if activities were established to promote new-growth vegetation including native grasses and forbs (i.e., prescribed burns), these activities would likely benefit Utah prairie dogs overtime, even though short-term impacts could be adverse. If vegetation alterations were aimed at establishing a shrub component, Utah prairie dog habitat may be lost or degraded. Increased human presence may alter Utah prairie dogs behavior reducing the amount of time available for the species to forage and causing an unnecessary expenditure of energy in fleeing and alerting others. An activity conducted under the threatened and endangered species program that could result in short-term and long-term impacts to Utah prairie dogs is the translocation program. Utah prairie dog translocations have the potential to result in direct mortality of individuals during capture, release, and the acclimation period in their new environments. Transplanted Utah prairie dogs may be stressed and more sensitive to the effects of grazing and experience increased mortality rates, since they often face high predation risks following transplantation and forage widely and less vigilantly in response to low food availability at the translocation sites. However, long-term impacts are generally beneficial and include the establishment of new populations and preservation of genetic stock.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat for wildlife and fisheries, and provide habitats for threatened and endangered species. Due to the generality of activities under this program, they also occur under other programs. Due to the many different species in the Field Office area, BLM is likely to encounter management situations where there are species' with conflicting habitat requirements. Therefore, it is likely that a management activity beneficial for one species may not be beneficial for other species.

Activities from the wildlife management program that may impact Utah prairie dogs include habitat improvements that require surface or vegetation disturbances, prescribed burns, fencing, and developing water sources. These activities could have both positive and negative impacts to Utah prairie dogs depending upon their goals and the overall proximity to the species and/or suitable habitat.

Surface disturbing activities could destroy existing colony structure and cause direct mortality of individuals. Additionally, surface disturbance may result in erosion or degradation of habitat and lead to reduced Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation. However, if activities were established to promote new-growth vegetation including native grasses and forbs (i.e., prescribed burns), these activities would likely benefit Utah prairie dogs overtime, even though short-term impacts could be adverse. If vegetation alterations were aimed at establishing a shrub component (i.e., big game and sage-grouse habitat improvements), Utah prairie dog habitat may be lost or degraded. Increased human presence may alter Utah prairie dogs behavior reducing the amount of time available for the species to forage and causing an unnecessary expenditure of energy in fleeing and alerting others. Development of water resources in and around Utah prairie dog colonies would provide the species with increased access to available water; however other wildlife would also utilize this resource, increasing potential negative impacts (i.e., colony trampling and increased grazing pressures).

Wildland Fire Management

Objectives of fire management are to protect life, property, and resources values from wildfire and restore the natural role of fire in the ecosystem. Major activities associated with the BLM's fire management program include: wildfire suppression, wildland fire use, prescribed burning, non-fire fuels treatments (mechanical and chemical), and emergency stabilization and rehabilitation following wildfires. Fire suppression methods may involve: fireline construction, use of fire suppression agents and retardants, and water withdrawals.

Utah prairie dogs and suitable habitat occur in grassland and sagebrush habitats. All components of fire management could be utilized within potentially suitable or occupied habitat for the Utah prairie dog. Wildland fire suppression may have direct, negative effects on Utah prairie dogs and damage or destroy occupied or suitable habitat. Suppression operations may harass, displace, injure, or kill prairie dogs from smoke or fire during backfires, surface disturbance, or human-caused disturbance. Wildland fire suppression operations may adversely affect prairie dogs or colonies if they are unintentionally sprayed with fire retardant. Following a fire, short-

term adverse impacts may occur from a reduction in food supplies, loss of surface cover, an increased potential for colonization by invasive plant species, and increased predation. Despite the immediate, direct loss of forage and shrub cover following wildland fire and wildland fire suppression operations, the long-term impacts may be beneficial because fire rehabilitation activities will include reseeding according to the Utah Prairie Dog Recovery Plan and there would be a decreased risk for large fire events.

Potential impacts from wildland fire use and prescribed fire would be similar to those from wildfire suppression. Non-fire fuels treatments and emergency stabilization and rehabilitation following wildfires may be used to retain or improve range conditions and maintain lower fuel loads in grassland and sagebrush habitats suitable for Utah prairie dogs. Negative impacts include harassment, displacement, injury, or mortality; or immediate post-project alteration of key habitat components or prairie dog colonies from surface disturbance. Additionally, these fire management activities could benefit Utah prairie dogs due to improved forage quality and quantity, as well as greater visibility for detecting predators.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Cultural resource surveys and related activities have the potential to occur in Utah prairie dog habitat and affect the species. This program's activities may increase human presence in Utah prairie dog habitat during resource surveys and cultural or fossil resource excavations. Associated noise and visual stimulation may lead to disturbance and displacement of individuals from occupied habitats and change foraging and reproductive behavior. Excavation-related surface disturbance activities may lead to erosion or degradation of habitat due to vegetation removal, and thereby reduce Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation. Other potential direct or indirect impacts may include mortality due to excavation activities, and/or due to increased human presence near prairie dog towns that can alter typical activity patterns and lead to physical distress and decreased health.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Paleontological resource surveys and related activities have the potential to occur in Utah prairie dog habitat and affect the species. This program's activities may increase human presence in Utah prairie dog habitat during resource surveys and cultural or fossil resource excavations. Associated noise and visual stimulation may lead to disturbance and displacement of individuals from occupied habitats and change foraging and reproductive behavior. Excavation-related

surface disturbance activities may lead to erosion or degradation of habitat due to vegetation removal, and thereby reduce Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation. Other potential direct or indirect impacts may include mortality due to excavation activities, and/or due to increased human presence near prairie dog towns that can alter typical activity patterns and lead to physical distress and decreased health.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

Range management activities may include vegetation treatments such as prescribed fire, mechanical and chemical control of noxious weeds, sagebrush and other target species. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management). Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities.

There are four primary ways livestock manipulate habitats to favor/hinder some wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Livestock grazing has the potential to result in impacts to Utah prairie dogs. Overgrazing by livestock may result in a vegetation shift from grass to shrub forage, weed infestations, and erosion, leading to lower quality Utah prairie dog habitat and/or potential removal/destruction of prairie dog colonies. However, certain grazing regimes, such as rotational grazing, may provide beneficial impacts such as improvements to forage quality and positive changes in vegetative composition.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Authorized activities under this program have the potential to result in negative impacts to Utah prairie dogs and/or their habitat. Increased human presence (and associated noise and visual stimulation) due to recreation activities may result in disturbance and displacement of individuals from occupied habitats, affecting typical activity patterns, foraging and reproductive behavior, and leading to physical distress, decreased health, and mortality. Increased vehicular traffic

could lead to mortality from vehicle collisions, collapse of burrows, or potential poaching. Surface disturbance activities may result in erosion or degradation of habitat due to vegetation removal, leading to reduced Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Increased vehicular traffic and human presence and construction activities associated with the lands and realty program could directly and indirectly impact Utah prairie dogs. Increased vehicular traffic could lead to mortality from vehicle collisions or potential poaching. Increased human presence (and associated noise and visual stimulation) may result in disturbance and displacement of individuals from occupied habitats, affecting typical activity patterns, foraging and reproductive behavior, and leading to physical distress, decreased health, and/or mortality. Exchange or sales of lands may lead to habitat fragmentation and loss.

Surface disturbance resulting from construction activities may result in erosion or degradation of habitat due to vegetation removal and increased potential for invasive species, leading to reduced Utah prairie dog habitat components for burrowing, foraging, or cover, and increased predation. Additional negative impacts include direct loss of habitat and direct mortality due to: displacement, habitat fragmentation and modification, and increased potential of plague transmittance.

Minerals and Energy Management

The planning area will be open to consideration for exploration, leasing, and development of leasable minerals (oil, gas, coal, oil shale, and geothermal), and salable minerals (sand, gravel, sandstone, shale, limestone, basalt, and granite rock). Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. Mineral exploration and extraction often results in surface disturbance from road and facility construction, removal of topsoil and overburden, stock piling of these materials, and post-mining reclamation and recontouring.

Geological and mining activities on BLM lands have the potential to affect Utah prairie dogs. General direct and indirect effects resulting from this program would include increased human presence and vehicle traffic in Utah prairie dog habitat and increased surface disturbance. Increased human presence may alter Utah prairie dogs behavior reducing the amount of time available for the species to forage and causing an unnecessary expenditure of energy in fleeing

and alerting other prairie dogs. Specific negative impacts include decreased availability/use of suitable habitat, direct loss of habitat, and disturbance due to: displacement, habitat fragmentation and modification, increased construction activities, exposure to toxic substances, greater exposure to predators, and potential increases in recreational shooting. This could result in reduced fitness from fleeing and warning behavior, indirect and direct mortality.

Special Designations Management – Other designations

Program objectives are to ensure continued promotion, protection and management of National and Utah Scenic Byways and Backways, and preservation of the Old Spanish National Historical Trail. This includes construction of road pullouts and information kiosks, and other interpretative materials.

Authorized activities under this program have the potential to result in negative impacts to Utah prairie dogs and/or their habitat. Increased human presence (and associated noise and visual stimulation) due to recreation activities may result in disturbance and displacement of individuals from occupied habitats, affecting typical activity patterns, foraging and reproductive behavior, and leading to physical distress, decreased health, and mortality. Increased vehicular traffic could lead to mortality from vehicle collisions, collapse of burrows, or potential poaching. Surface disturbance activities may result in erosion or degradation of habitat due to vegetation removal, leading to reduced Utah prairie dog habitat components for burrowing, foraging, or cover and increased predation.

Hazardous Materials Management

The primary objective of hazardous materials management is to ensure that human hazardous materials and public safety concerns, such as hazardous materials, wastes, abandoned mine & well sites are mitigated or eliminated. The potential for intentional or accidental releases of hazardous materials onto public lands will also be minimized to protect public and environmental health and safety on lands administered by BLM.

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Mineral developments, pipelines, roads, and railroad transportation systems associated with the hazardous materials program may occur within all of the planning areas analyzed in this document, and therefore have the potential to occur in Utah prairie dog habitat. Direct and indirect effects on Utah prairie dogs resulting from this program would include increased human presence in Utah prairie dog habitat, surface disturbance, and soil compaction.

Increased human presence (and associated noise and visual stimulation) may result in disturbance and displacement of individuals from occupied habitats and may affect foraging and reproductive behavior. Surface disturbance activities may result in erosion or degradation of

habitat due to vegetation removal, leading to reduced Utah prairie dog habitat components for burrowing, foraging, or cover, and increased predation. Other potential direct or indirect impacts may include mortality from crushing or burying individuals during excavation activities, and/or due to increased human presence near prairie dog towns that can alter typical activity patterns and lead to physical distress and decreased health.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to the Utah prairie dog and its habitat under the Proposed Actions would include, but not be limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' suitable or potential habitat.
- Encroachment of human development into suitable habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining BLM-administered lands:
    - State of Utah
    - County Governments in Utah
    - Local Governments in Utah
    - Private landholders in Utah

The Paunsaugunt Recovery Area is found largely on private and State lands. Particularly in the Awapa Plateau region, Utah prairie dog locations are surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Utah prairie dogs are susceptible to activities on State and private lands. Many of these activities, such as human population expansion and associated infrastructure (increased roads); oil and gas exploration and development; research; unregulated recreation activities (e.g. off-highway vehicles); and control of prairie dogs as pests on state and private lands within the action area may contribute to negative cumulative effects to the Utah prairie dog through human-caused injury or mortality, elimination of or disturbance to colonies, tunnels, and den sites, destruction or degradation of native grassland or sagebrush habitats, and spreading disease, such as distemper. Contributing as cumulative effects to the proposed action, these activities will continue to affect Utah prairie dog population persistence by contributing to loss and fragmentation of small, isolated colonies.

Conclusion

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including the conservation measures that were incorporated into the project design.

After reviewing the current status of the Utah prairie dog, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the Utah prairie dog. Critical habitat has not been designated for this species. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

Welsh's milkweed (*Ascelpias welshii*)

Status of the Species

Species Description

Welsh's milkweed is a stout, perennial herb with opposite, extremely hairy, large oval leaves covered with a very dense white-wooly pubescence (tomentum) early in the growing season. During the growing season, the tomentum of the current year's herbaceous stems and leaves is abraded off by blowing sand, leaving them nearly glabrous late in the growing season. Two other growth forms for this species are known to exist. It produces spherical clusters of flowers that are cream-colored with pink-tinged centers. The species grows only on open sand dunes between 5,570 and 6,230 feet elevation. The individual plants grow rapidly, to avoid wind-deposited sand accumulation on the lee side of the sand dunes. Rhizomes hold sand in place and initiate stabilization of the sand dunes. Pinyon/juniper woodlands, scrub oak, sagebrush, and ponderosa pine communities surround the open dune habitats that support the milkweed (USFWS 1987, 1992).

Life history and Population dynamics

Welsh's milkweed blooms from June to early September. The Welsh's milkweed is a pioneer species adapted to habitat disturbances. Welsh's milkweed reproduces primarily by rhizomes, but can reproduce by seed when conditions are appropriate. Growth rates and reproduction are primarily controlled by precipitation amounts.

Status and Distribution

This species is found only in southern Utah and northern Arizona. The USFWS listed this species as threatened on October 28, 1987. Designated critical habitat has been finalized for this species, and includes about 4,000 acres of sand dune habitat in the Coral Pink Sand Dunes and the Sand Hills area in Kane County, Utah. (USFWS 1992)

Environmental Baseline

Status of the Species within the Action Area

In Utah and the Kanab Field Office planning area, Welsh's milkweed is found in Kane County. Three distinct populations comprise approximately 1,100 individuals. These populations are referred to as Coral Pink Sand Hills, Sand Hills, and Sand Cove.

Table 2. Population Trend Summary for Welsh's milkweed

Sample Year	Primary Stems	Secondary Stems	Mature Stems	Total Stems
1989	885	436	650	1971
1991	894	322	894	2110
1992	977	446	802	2225
1993	1048	339	778	2165
1994	1022	429	529	1980
1995	1383	549	677	2609
1996	1031	435	741	2207
1997	1171	527	578	2276
1998	961	493	668	2122
1999	553	523	757	1833
2000	319	276	534	1129
2001	189	225	576	990
2002	255	302	261	818
2003	327	383	367	1077
2004	356	284	368	1008
2005	363	226	484	1073
2006	273	259	562	1094
2007	269	252	565	1186

Source: Esplin 2007

Factors Affecting Species Environment within the Action Area

Many factors affect the growth and survival of the Welsh's milkweed. At some locations, individual plants and habitat are affected by off-highway vehicle activity. Off-highway vehicle use has increased steadily since the introduction of three and four-wheel motorcycles. Damage to stems of Welsh's milkweed as a result of OHV use has been observed at several sites. However, it appears that vegetative competition negatively impact Welsh's milkweed populations greater than human disturbance. Welsh's milkweed does not compete well where other plants become established. Drought conditions also appear to negatively affect plant populations and flowering. Significant insect predation and damage was identified on mature stems in 2005 field surveys (Esplain, 2007).

Effects of the Action

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Soil resource management actions, such as land treatments and reclamation may provide both beneficial and negative effects to the species. Use of heavy machinery may result in crushing of individuals, soil erosion and transportation of seeds of invasive species, leading to direct mortality of this species as well as the possibility of increased competition with weed species. Soil management actions are not likely to directly affect the primary constituent elements of Welsh's milkweed critical habitat, as soil resource actions are not typically located in open dune habitats.

Vegetation Management

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Surface disturbance from heavy machinery may result in crushing of individual plants. Use of herbicides or pesticides may render habitat unsuitable, or affect potential pollinators. Fencing of riparian areas may displace wildlife and livestock out of the riparian zone into Welsh's milk weed habitat. Seed collection may disturb suitable habitat. These actions could result in direct mortality of plants, and decreased recruitment in degraded habitat. Vegetation management actions are not typically located in open dune habitats, and therefore are unlikely to modify critical habitat.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat for wildlife and fisheries, and provide habitats for threatened and endangered species. Due to the generality of activities under this program, they also occur under other programs as well. Due to the many different species, it is likely to encounter management situations where there are species' with conflicting habitat requirements. Therefore, it is likely that a management activity beneficial for one species may not be beneficial for other species.

The majority of this program involves habitat manipulations. Surface disturbance from heavy machinery could result in crushing of individual plants, increase soil compaction, erosion and

sedimentation, or transport of seeds from weed species. The use of herbicides may cause direct mortality of the Welsh's milkweed or modify the existing habitat, negatively impacting pollinators. Water developments under this program could increase grazing pressure from big game as well as cattle, and increase trampling of individuals. Habitat manipulations could also result in hydrologic changes, increase sedimentation. These actions could result in direct mortality of plants, and decreased recruitment in degraded habitat. However, a long term beneficial effect on Welsh's milkweed may also occur where habitat manipulations improve the environment.

The primary constituent element of the Welsh's milkweed's designated critical habitat is considered to be the open sand dunes themselves. Fish and wildlife management actions are not likely to directly affect the primary constituent elements for the Welsh's milkweed as fish and wildlife management activities are not typically located in open dune habitats.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Cultural resources have not been known to occur in the open sand dunes themselves but are known to be located in the surrounding areas. The use of power tools and heavy machinery has the potential to crush individual plants, increase soil compaction, erosion and sedimentation, or transport seeds from weed species. Interpretive sites near populations and habitat could increase human activity in an area, leading to collection or other disturbance. These activities could result in individual mortality and a decrease in recruitment in areas with degraded habitat.
Cultural resource development may impact individual plants or cause declines in localized populations if activities are conducted within habitat for the Welsh's milkweed. Cultural resource excavation or preservation actions are typically less than one acre in size and any disturbances would be isolated, and most excavation and preservation efforts are short lived and are not expected to impact Welsh's milkweed over the long term. However, when a species has relatively few individuals and is extremely localized, any direct mortality or alteration of potentially suitable habitat could cause long-term, adverse impacts to the species. Interpretive sites or any preservation action that results in public advertisement and increased human use/access may result in long term effects to the species.
The primary constituent element of the Welsh's milkweed's designated critical habitat is considered to be the open sand dunes themselves. Cultural resource management actions are not likely to directly affect the primary constituent elements for the Welsh's milkweed as cultural resource areas are not typically located in open dune habitats.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up

to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Paleontological resources have not been known to occur in the open sand dunes. The use of power tools and heavy machinery has the potential to crush individual plants, increase soil compaction, erosion and sedimentation, or transport seeds from weed species. Interpretive sites near populations and habitat could increase human activity in an area, leading to collection or other disturbance. These activities could result in individual mortality and a decrease in recruitment in areas with degraded habitat.

Paleontological resource development may impact individual plants or cause declines in localized populations if activities are conducted within habitat for the Welsh's milkweed. Paleontological resource excavation or preservation actions are typically less than one acre in size and any disturbances would be isolated, and most excavation and preservation efforts are short lived and are not expected to impact Welsh's milkweed over the long term. However, when a species has relatively few individuals and is extremely localized, any direct mortality or alteration of potentially suitable habitat could cause long-term, adverse impacts to the species. Interpretive sites or any preservation action that results in public advertisement and increased human use/access may result in long term effects to the species.

The primary constituent element of the Welsh's milkweed's designated critical habitat is considered to be the open sand dunes themselves. Paleontological resource management actions are not likely to directly affect the primary constituent elements for the Welsh's milkweed as paleontological resource areas are not typically located in open dune habitats.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Impacts of OHV use on the Welsh's milkweed may involve direct mortality and habitat disturbance. Off-highway vehicle use within Welsh's milkweed habitats has the potential to lead to direct mortality of the species via the crushing of plants by tires, and indirect mortality from increases in erosion and sedimentation. The increasing use of OHVs on BLM land can also transport seeds from infested areas to un-infested areas (BLM 2002). Surface disturbance associated with OHV use (e.g., crushing of vegetation and soil disturbance) has the potential to render native plant communities habitats susceptible to weed establishment, and can modify soil conditions to the point where they are unsuitable for establishment by native species. In addition, surface disturbance can impede the natural succession of plant communities and prevent Welsh's milkweed from colonizing areas that a frequently disturbed. If demand for a particular area increases, the BLM would require a permit process to protect its resource values. Permits are required for all commercial recreational activities. This program may lead to direct

and indirect mortality, and reduced reproductive output and colonization of disturbed or weed infested habitats.
The primary constituent element of the Welsh's milkweed's designated critical habitat is considered to be the open sand dunes themselves. The primary threat to the open sand dunes resulting from recreation management is the spread of noxious and invasive weeds. Welsh's milkweed does not compete well with other vegetation and is rarely found outside of deep sand dunes where vegetation is dense (Esplin. 2007).

Hazardous Materials Management

The primary objective of hazardous materials management is to ensure that human hazardous materials and public safety concerns, such as hazardous materials, wastes, abandoned mine & well sites are mitigated or eliminated. The potential for intentional or accidental releases of hazardous materials onto public lands will also be minimized to protect public and environmental health and safety on lands administered by BLM.

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Several threats resulting from hazardous materials and public safety management have the potential to affect Welsh's milkweed by trampling, destroying, and segmenting populations and habitat by individuals and equipment involved with the clean-up of the site. Mortality may occur to individuals exposed to the hazardous substances. Hazardous materials can damage or degrade potential habitat through clean-up efforts.
While the release of hazardous materials in the area of Welsh's milkweed populations or its potential habitat may be unlikely, there is no way to ensure that future developments and actions in the vicinity of the populations or suitable habitats will not result in adverse impacts to Welsh's milkweed. For all BLM-authorized activities involving hazardous materials, precautionary measures will be implemented to guard against releases or spills into the environment, and protection and avoidance measures will be applied to any planned clean-up effort.
The primary constituent element of the Welsh's milkweed's designated critical habitat is considered to be the open sand dunes themselves. The modification of the sand dunes and habitat may result from the removal of contaminated sand, if this were to occur.

Cumulative Effects

Cumulative effects include future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to the Welsh's milkweed under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' critical, suitable, or potential habitat;
- Encroachment of human development into a species' critical, suitable, or potential habitat; and
- Management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah;
    - County Governments in Utah;
    - Local Governments in Utah; and
    - Private landholders in Utah.

Welsh's milkweed occurs primarily within BLM management boundaries. Welsh's milkweed is also found on state land, and therefore susceptible to activities on these lands. It is likely that camping facilities in the Coral Pink Hills State Park will expand, attracting more OHV users to the Park. Although the camping facilities will not be built in Welsh's milkweed habitat, increasing such facilities is likely to increase visitorship and OHV use in the area. While OHV use can provide the disturbed habitat preferred by Welsh's milkweed, intense OHV use can also prevent the milkweed from colonizing these areas. Contributing as cumulative effects to the proposed action, increased OHV use will continue to affect Welsh's milkweed's populations by decreasing abundance, injuring plants, adversely affecting pollinators, and further adversely impacting occupied and suitable habitat.

Conclusions

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including the conservation measures that were incorporated into the project design.

After reviewing the current status of the Welsh's milkweed, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the Welsh's milkweed's. Critical habitat has not been designated for this species. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

Siler pincushion cactus *(Pediocactus sileri)*

Status of the Species

Species Description

The Siler pincushion cactus is a perennial, herbaceous succulent in the cactus family (*Cactaceae*). It is a small, solitary cactus that stands approximately 10 cm tall. The central spines are about 2.5 cm long, the radials are slightly shorter. The flowers are yellowish with maroon veins, and the greenish-yellow fruits have gray scales (Anderson 2001; USFWS 2003). The Siler pincushion cactus is found in salt desert scrub, pinyon/juniper, grassland, and blackbrush communities between 2,800 and 5,400 feet elevation. It grows in sparsely-vegetated areas on red or gray gypsiferous, seleniferous, calciferous, and shale badlands high in soluble salts, derived from the Moenkopi Formation.

Life history and Population dynamics

This species flowers in April and May, with fruit appearing in May and June. Fruit dispersal occurs prior to mid-September.

Status and Distribution

The Siler pincushion cactus was listed as threatened by the USFWS in December, 1993 (58 FR 68476). There is no designated critical habitat associated with this species. In Utah, this species is found in the St. George, Hurricane, and Fort Pierce Wash areas of Kane and Washington Counties. Three known populations include approximately 2,700 individuals. Many of these small populations are separated by distances of several kilometers even when suitable habitat is contiguous.

Environmental Baseline

Status of the Species within the Action Area

Only one small population is known to occur within the Kanab Field Office planning area. BLM monitoring of this population indicates a decline in the number of individuals since 2000. This population comprised less than 10 individuals in 2007. The most likely factor for individual number decline is related to drought (Lisa Church 2008, personal communication).

Factors Affecting Species Environment within the Action Area

Activities that could impact the Siler pincushion cactus include strip mining of gypsum deposits, unregulated off-highway vehicle use, habitat destruction from cattle trampling, and illegal collection. Trampling and habitat destruction by cattle is most severe in areas of concentrated use such as corrals and those areas near water and salt sources. Ground disturbance causes erosion and compaction of soil, and influences success of seed dispersal. Drought conditions also appear to negatively affect plant populations and flowering (Lisa Church 2008, personal

communication). Other threats include direct loss of plants from steep slopes, or damage to roots and fruits from predation or disease.

Effects of the Action

Soil Resources

The objectives for the BLM's soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Activities authorized under this program may lead to short-term increased soil erosion and storm run-off, crushing of individual plants, and introduction of weed species. This could lead to direct and indirect mortality, competition with weed species and decreased recruitment. This program may have some long-term beneficial effects if habitat and watershed quality is improved.

Vegetation Management

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities authorized under this program may lead to crushing of plants, soil erosion, and compaction. Herbicides may negatively impact the habitat, vegetation composition, and pollinators. Seed collection may damage individuals, reduce the number of seeds present, or result in increased illegal plant collection from increased human presence. These activities could lead to direct and indirect mortality, as well as reduced recruitment and reproduction of the Siler pincushion cactus.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat for wildlife and fisheries, and provide habitats for threatened and endangered species. Due to the generality of activities under this program, they also occur under other programs as well. Due to the many different species, it is likely to encounter management situations where there are species' with conflicting habitat requirements. Therefore, it is likely that a management activity beneficial for one species may not be beneficial for other species.

Actions under this program are likely to lead to crushing of plants, soil erosion, compaction and sedimentation, transport of weed seeds, modification of habitat vegetation and loss of pollinators from herbicide and other chemical use. In addition, actions under this program could increase

grazing pressure from cattle and big game. These effects would likely lead to direct and indirect plant mortality, as well as reduced recruitment and reproduction of the Siler pincushion cactus.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities authorized under this program could lead to increased human activity, crushing or removal of vegetation, soil erosion, compaction and sedimentation. This could result in direct mortality of the Siler pincushion cactus. Cultural resources projects are generally small in size and temporary in nature, however, when a species has relatively few individuals and is extremely localized, any direct mortality or alteration of potentially suitable habitat could cause long-term, adverse impacts to the species.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities authorized under this program could lead to increased human activity, crushing or removal of vegetation, soil erosion, compaction and sedimentation. This could result in direct mortality of the Siler pincushion cactus. Paleontological resources projects are generally small in size and temporary in nature, however, when a species has relatively few individuals and is extremely localized, any direct mortality or alteration of potentially suitable habitat could cause long-term, adverse impacts to the species.

Forestry and Woodland Products Resources

The forest management program permits commercial timber harvest in order to promote forest health, and manages the commercial, non-commercial, and Native American harvest of woodland products including posts, Christmas trees and fuel wood.

Forest resources support activities such as road construction may occur in or near existing or suitable Siler pincushion cactus habitat. Impacts associated with these activities are described under the Lands and Realty Program effects analysis

Siler pincushion cacti are located in areas that are typically un-forested. In the planning area this plant is found mostly in salt desert scrub habitat. However, the Siler pincushion cactus has been known to exist in pinyon/juniper habitat communities. Activities allowed under this program may lead to increased human presence, surface disturbance including crushing of vegetation, soil

erosion, compaction and sedimentation. These effects could lead to direct mortality and reduced recruitment and reproduction of Siler pincushion cactus.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

There are four primary ways livestock manipulate habitats to favor/hinder some wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Activities authorized under this program could result in concentration of cattle, increased grazing pressure, trampling of vegetation, soil compaction, erosion and sedimentation, modification of habitat vegetation and loss of pollinators. Grazing has previously been permitted in this area, however, future grazing permits may not include Siler pincushion habitat. Grazing in the habitat could result in mortality of individuals, or reduced recruitment and reproduction of the Siler pincushion cactus.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Activities permitted under this program will increase human presence, increasing the risk of illegal collection, as well as habitat disturbance, crushing of vegetation, introduction of invasive weed species and possible soil compaction, erosion and sedimentation. This could result in mortality of individuals, or reduced recruitment and reproduction of the Siler pincushion cactus. However, the majority of recreational activity in occupied Siler pincushion habitat is hiking, and all recreational activities are limited in occupied habitat.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations,

sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Actions permitted under this program will increase access, possibly increasing illegal collection, as well as creating habitat disturbance, crushing vegetation, introducing invasive weed species and possibly resulting in soil compaction, erosion and sedimentation. Exchange or sales of lands may lead to habitat fragmentation and loss. This could result in mortality of individuals, or reduced recruitment and reproduction of the Siler pincushion cactus. The known populations of Siler pincushion cactus do not occur near lands considered for disposal, and additional habitat may be acquired through this program, resulting in increased conservation for the species.

Special Designations Management – Other designations

Program objectives are to ensure continued promotion, protection and management of National and Utah Scenic Byways and Backways, and preservation of the Old Spanish National Historical Trail. This includes construction of road pullouts and information kiosks, and other interpretative materials.

Activities authorized under this program could lead to increased potential for trampling of plant individuals, collection of individuals, introducing invasive weed species and possibly resulting in soil compaction, erosion and sedimentation. This could result in mortality of individuals, or reduced recruitment and reproduction of the Siler pincushion cactus.

Hazardous Materials Management

The primary objective of hazardous materials management is to ensure that human hazardous materials and public safety concerns, such as hazardous materials, wastes, abandoned mine & well sites are mitigated or eliminated. The potential for intentional or accidental releases of hazardous materials onto public lands will also be minimized to protect public and environmental health and safety on lands administered by BLM.

Activities conducted under the BLM's hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Actions permitted under this program could create habitat disturbance, crush vegetation, introduce invasive weed species and possibly result in soil compaction, erosion and sedimentation. This could result in mortality of individuals, or reduced recruitment and reproduction of the Siler pincushion cactus.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future

Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to the Siler pincushion cactus under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' suitable or potential habitat;
- Encroachment of human development into a species' suitable or potential habitat; and
- Management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah;
    - County Governments in Utah;
    - Local Governments in Utah; and
    - Private landholders in Utah.

Siler pincushion cactus occur primarily within BLM management boundaries. In these areas, Siler pincushion cactus locations are surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Siler pincushion cactus are susceptible to activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads), research, and recreation activities (e.g. off-road vehicles), are expected to continue on State and private lands within the Siler pincushion cactus' range. In addition, illegal collection is reasonably certain to occur. Contributing as cumulative effects to the proposed action, all these activities will continue to affect Siler pincushion cactus populations by decreasing abundance, injuring plants, adversely affecting pollinators, and further adversely impacting occupied and suitable habitat.

Conclusions

The conclusions of this biological opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including the resource protection measures that were incorporated into the project design.

After reviewing the current status of the Siler pincushion cactus, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the Proposed Utah Statewide Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the Siler pincushion cactus. Critical habitat has not been designated for this species. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

California condor *(Gymnogoys Californianus)*

Status of the Species

Species / Critical Habitat Description

The California condor is a member of the family *Cathartidae*, the New World vultures, a family of seven species, including the closely related Andean condor (*Vultur gryphus*) and the sympatric turkey vulture (*Cathartes aura*) (61 FR 54043). California condors are among the largest flying birds in the world (USFWS 1996; 61 FR 54043). Adults weigh approximately 10 kilograms (22 pounds) and have a wing span up to 2.9 meters (9.5 feet) (61 FR 54043). Adults are black except for prominent white underwing linings and edges of the upper secondary coverts. The head and neck are mostly naked, and the bare skin is gray, grading into various shades of yellow, red, and orange. Males and females cannot be distinguished by size or plumage characteristics. The heads of juveniles up to 3 years old are grayish black, and their wing linings are variously mottled or completely dark. During the third year the head develops yellow coloration, and the wing linings become gradually whiter (N.J. Schmitt *in litt.* 1995; 61 FR 54043). By the time individuals are 5 or 6 years of age, they are essentially indistinguishable from adults (Koford 1953; Wilbur 1975; Snyder *et al.* 1987; 61 FR 54043), but full development of the adult wing patterns may not be completed until 7 or 8 years of age (N.J. Schmitt *in litt.* 1995; 61 FR 54043). Habitat includes caves, cliffs and steep slopes.

Life history and Population dynamics

Condors reach sexual maturity by 5 to 6 years of age and breeding occurs between 6 and 8 years of age. Courtship and nest site selection occurs from December through the spring (USWFS 1996). Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Breeding California condors normally lay a single egg between late January and early April, every other year (USFWS 1996). The condor provides an extensive amount of parental care and the average incubation period for a condor egg is about 56 days (USFWS 1996). Both parents share responsibilities for feeding the nestling. Fledging occurs at six months of age; however, juvenile condors may be dependant on their parents for more than a year (Peregrine Fund, Calif. Condor 2005). The California condor life span is unknown, but may possibly extend up to 60 years (San Diego Zoo 2005).

Condors are strict scavengers. Unlike turkey vultures, condors do not have an exceptional sense of smell (National Park Service 2005). They locate their food visually, often by investigating the activity of ravens, coyotes, eagles, and other scavengers. Without the guidance of their parents, young inexperienced juvenile condors may also investigate the activity of humans. As young condors learn and mature this human directed curiosity diminishes (National Park Service 2005).

Status and Distribution

The California condor (*Gymnogyps californianus*) was listed as endangered on March 11, 1967 (32 FR 4001). California condors remain one of the world's rarest and most imperiled vertebrate species (Cooper 1890; Koford 1953; Wilbur 1978) with California being listed as the only critical habitat. Fossil records indicate that California condors once ranged over much of the southern United States. The main reason for the decline of the condors is an unsustainable mortality rate of free-flying birds combined with a naturally low reproductive rate.
Despite intensive conservation efforts, the wild California condor population declined steadily until 1987, when the last free-flying individual was captured. During the 1980s, captive condor flocks were established at the San Diego Wild Animal Park and the Los Angeles Zoo, and the first successful captive breeding was accomplished at the former facility in 1988. Following several years of increasingly successful captive breeding, captive-produced condors were first released back to the wild in California in early 1992.
"On October 6, 1996, the Service announced its intention to reintroduce California condors into northern Arizona and southern Utah, and designate the released birds as a nonessential, experimental population (NEP) under Section 10(j) of the ESA (61 FR 54043). On October 29, 1996, six California condors were released at the Vermilion Cliffs in Coconino County of northern Arizona. Since then, additional birds have been released. The designated experimental population area (ExPA) includes remote federal (BLM, USFS, and NPS) and Native American Reservation lands, and some private lands in northern Arizona, southern Utah and southeastern Nevada (61 FR 54043). The primary release site and current nesting sites occur at Grand Canyon National Park and Vermillion Cliffs, Arizona" (Diana Whittington, personal communication).

Environmental Baseline

Status of the Species within the Action Area

The California condor may occur throughout southern Utah in a variety of habitats. Condors have been documented in Utah as far north as Flaming Gorge Reservoir; regular sightings occur in southern Utah, particularly in the vicinity of Zion National Park/Kolob Canyons.
The California condor is expanding its range from northern Arizona and may soon include the planning area for roosting and nesting. Although California condors have not been specifically identified within the planning area, California condors have been identified as far North as Flaming gorge for foraging and traveling, and have likely traveled across the planning area.

Factors Affecting Species Environment within the Action Area

Most California condor deaths in recent years have been directly or indirectly related to human activity. Shootings, poisoning, lead poisoning, and collisions with power lines are considered the condors' major threats. In addition, illegal collection of eggs and birds, poisoning from predator control and an increase in roads and houses throughout the open country needed by condors for foraging have contributed to their decline. Their slow rate of reproduction and high number of years spent reaching breeding maturity make the condor population as a whole more vulnerable to these threats.

Effects of the Action

Soil Resources Management

The objectives for the BLM's soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Potential adverse impacts to California condor may result from land treatments occurring within watersheds. Many of these activities are meant to benefit soil resources and watersheds by reducing soil loss and reclaiming surface disturbances or unnecessary roads. However, activities occurring under this program may also increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, and surface disturbance in condor habitat. Short-term adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, foraging, and roosting behaviors; and decreased prey habitat. Long-term benefits may include increased nesting success, increased prey abundance, and increased survival due to maintenance and improvement of soil resources.

Vegetation Management

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance (mechanical, chemical, biological), and surface disturbance in condor habitat. Associated noise disturbances may adversely affect the behavior of condors during breeding, nesting, or foraging activities. Vegetation alteration, removal, or inadvertent chemical treatment may adversely affect availability and quality of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey species habitat. As a result, there may be site-specific decreases in nest initiation or nesting success.

Fish and Wildlife Species Management

This program aims to maintain biological diversity, improve habitat for wildlife and fisheries, and provide habitats for threatened and endangered species.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in California condor habitat. Noise disturbances may adversely affect the behavior

of condors during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, increase sediment deposits, and habitat for prey species. Short-term adverse impacts may include, but not be limited to: fragmented prey habitat; decreases in nest initiation or nesting success; and decreased adult and nestling/juvenile fitness; and alterations of water distribution within occupied habitat of the California condor. In general, long-term efforts to improve the health of riparian habitats may benefit California condors by increasing prey abundance.

Wildland Fire Management

Objectives of fire management are to protect life, property, and resources values from wildfire and restore the natural role of fire in the ecosystem. Major activities associated with the BLM's fire management program include: wildfire suppression, wildland fire use, prescribed burning, non-fire fuels treatments (mechanical and chemical), and emergency stabilization and rehabilitation following wildfires. Fire suppression methods may involve: fireline construction, use of fire suppression agents and retardants, and water withdrawals.

Activities occurring under this program may increase human presence and equipment and vehicle use (with increased noise disturbance), vegetation treatment or disturbance, decreases in local air quality, and surface disturbance in California condor habitats. Associated noise disturbances may adversely affect the behavior of California condor, or displacement during breeding, nesting, roosting, or foraging activities. Vegetation disturbances or vegetation removal may decrease roosting sites, prey habitat and prey abundance. Soil disturbances and increased erosion may indirectly decrease abundance of prey. Smoke could interfere with visually based flight and foraging, and increased air traffic could result in collisions. As a result of these impacts, there may be site-specific decreases in nest initiation or nesting success, and possible mortality.

Potential impacts from wildland fire use and prescribed fire would be similar to those from wildfire suppression. Non-fire fuels treatments and emergency stabilization and rehabilitation following wildfires may be used to retain or improve range conditions and maintain lower fuel loads in grassland and sagebrush habitats. Negative impacts include harassment or displacement; or immediate post-project alteration of key prey habitat components from surface disturbance. Additionally, these fire management activities could benefit prey populations of California condors in the long-term due to improved forage quality and quantity.

Cultural Resources Management

This BLM program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment use (including associated auditory or visual disturbances), and surface disturbance in potential California

condor habitat. Associated noise disturbances may adversely affect the behavior of condors during breeding, nesting, roosting, or foraging efforts. Vegetation disturbances or removal associated with cultural resources excavations may reduce availability of prey habitat and prey abundance, at least in the short term. As a result, there may site-specific be decreases in nest initiation or nesting success, and displacement. These effects are likely to be short-term and relatively small scale due to the type of activity.

Paleontological Resources Management

This BLM program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment use (including associated auditory or visual disturbances), and surface disturbance in potential California condor habitat. Associated noise disturbances may adversely affect the behavior of condors during breeding, nesting, roosting, or foraging efforts. Vegetation disturbances or removal associated with cultural resources excavations may reduce availability of prey habitat and prey abundance, at least in the short term. As a result, there may site-specific be decreases in nest initiation or nesting success, and displacement. These effects are likely to be short-term and relatively small scale due to the type of activity.

Forestry and Woodland Products

The forest management program permits commercial timber harvest in order to promote forest health, and manages the commercial, non-commercial, and Native American harvest of woodland products including posts, Christmas trees and fuel wood.

Forest resources support activities such as road construction that may occur in or near existing or suitable California condor habitat. However, the impacts of these activities are analyzed and authorized by the lands and realty program.

Activities occurring under this program may increase human presence and equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance near or in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or chemical treatment of vegetation may adversely affect prey habitat and prey availability, and therefore, adversely affect California condors and their young. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat and prey abundance. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for prey species. As a result, there may be decreases in nest initiation or nesting success, and decreased fitness.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

Range management activities may include vegetation treatments such as prescribed fire, mechanical and chemical control of noxious weeds, sagebrush and other target species. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management). Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities.

There are four primary ways livestock manipulate habitats to favor/hinder wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Activities occurring under this program may increase human presence (including associated noise disturbances), vegetation disturbance, and habitat fragmentation in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Vegetation disturbances, vegetation removal, or vegetation alteration may result in less dense vegetation, more invasive plant species, fragmented prey habitat and adverse affects to availability of prey habitat and prey abundance. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. As a result, there may be decreases in nest initiation or nesting success, and decreased fitness.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Authorized activities under this program have the potential to increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Increased human presence, particularly during hunting seasons may indirectly result in increased exposure of condors to carcasses with lead fragments, with the potential for injury or mortality related to lead poisoning. Vegetation disturbances or vegetation removal may adversely affect the availability and quality of prey habitat and prey abundance. Soil disturbances may increase

erosion, adversely affect soil stability, and adversely affect prey habitat. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for California condor prey species. As a result, there may be decreases in nest initiation or nesting success, and decreased adult and nestling/fledgling fitness.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Construction of power lines or other infrastructure may result in electrocutions, entanglements, or collisions with flying birds, resulting in possible mortality. Vegetation disturbances or vegetation removal may adversely affect availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely affect prey habitat. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for California condor prey species. Exchange or sales of lands may lead to habitat fragmentation and loss. As a result, there may be decreases in nest initiation or nesting success, and increased adult nestling/juvenile fitness.

Minerals and Energy Management

The planning area will be open to consideration for exploration, leasing, and development of leasable minerals (oil, gas, coal, oil shale, and geothermal), and salable minerals (sand, gravel, sandstone, shale, limestone, basalt, and granite rock). Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. Mineral exploration and extraction often results in surface disturbance from road and facility construction, removal of topsoil and overburden, stock piling of these materials, and post-mining reclamation and recontouring.

These occurrences may increase human presence, noise disturbance, vegetation disturbance or removal, soil disturbances, invasive plant species, and pollutants in California condor habitat. Associated noise disturbances may adversely affect the behavior California condors during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of quality and quantity of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and decrease prey habitat. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for prey species. Pollutants in the area may affect California condor through adverse effects to prey

populations. As a result of these impacts, there may be decreases in nest initiation or nesting success, and decreased adult fitness.

Special Designations Management – Other designations

Program objectives are to ensure continued promotion, protection and management of National and Utah Scenic Byways and Backways, and preservation of the Old Spanish National Historical Trail. This includes construction of road pullouts and information kiosks, and other interpretative materials.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits, and decrease prey habitat quality. Short-term, site-specific adverse impacts may include, but not be limited to: disruption of normal breeding, nesting, and foraging behaviors; decreased nesting success; and decreased insect prey habitat and prey abundance.

Hazardous Materials and Public Safety

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Mineral developments, pipelines, and roads occur within all of the planning areas analyzed in this document, and have some potential to occur in California condor habitat. Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in California condor habitat. Associated noise disturbances may adversely affect the behavior of California condors during breeding, nesting, or foraging activities. Vegetation disturbances or vegetation removal may adversely affect availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and adversely impact prey habitat. As a result, there may be decreases in nest initiation or nesting success, and increased mortality.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to the California condor and designated critical habitat under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' critical, suitable, or potential habitat.
- Encroachment of human development into a species' critical, suitable, or potential habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah
    - County Governments in Utah
    - Local Governments in Utah
    - Private landholders in Utah

California condors have the capability to occur throughout the action area. The action area is surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. California condors are susceptible to activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private lands within the California Condor's range. Contributing as cumulative effects to the proposed action, these activities will continue to affect California condors productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting habitat of prey populations.

Conclusions

The conclusions of this conference opinion are based on full implementation of the project as described in the "Description of the Proposed Action" section of this document, including the resource protection measures that were incorporated into the project design.

After reviewing the current status of the California Condor, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's conference opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to jeopardize the continued existence of the California Condor. Critical habitat has not been designated for this species. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

Coral pink sand dunes tiger beetle *(Cincindela limbata albissima)*

Status of the Species

Species Description

The Coral Pink Sand Dunes tiger beetle appears to be isolated at high elevations, and like other members of the species group, is restricted to a cool, sandy habitat. The species is restricted to a relatively small part of the approximately 8-mile long dune field, situated at an elevation of 5,970 feet (USFWS Species Assessment and Listing Priority Assignment Form, dated June 30, 2004). Larval Coral Pink Sand Dunes tiger beetle inhabit inter-dunal swales, typically dominated by the leguminous plants *Sophora stenophylla* (silvery sophora) and *Psoralidium lanceolatum* (dune scurfpea), and several grasses including *Sporobolus cryptandrus* (sand dropseed) and *Stipa hymenoides* (Indian ricegrass).

Life history and Population dynamics

The Coral Pink Sand Dunes tiger beetle lives in sand dune habitat. Adult insects spend most of their daily activity time on the upper portions of the dunes and very little time in the interdune swales. Larvae are largely restricted to the damper and more protected swales and the lower slopes of the adjacent dunes (Biological and Conservation Database 2002, NatureServe 2005). Adult Coral Pink Sand Dunes tiger beetle are active predators on the sparse dune slopes, attacking and eating prey with their large and powerful mandibles (USFWS Species Assessment and Listing Priority Assignment Form, dated June 30, 2004). These beetles are active in the day, preying and scavenging on live and dead insects. At night, the beetles bury into the sand dunes. The larvae are found in individual burrows within the furrows of the dune system; from here they are able to ambush small invertebrate prey. Within their burrows, the larvae may become hosts to the parasitic wasp *Methoca* sp.

Status and distribution

The Coral Pink Sand Dunes tiger beetle is a rare insect that occurs in the Coral Pink Sand Dunes of Kane County in south-central Utah, and nowhere else in the world (Biological and Conservation Database 2002). In fact, because of its rarity and extremely limited distribution, this species is a candidate for federal listing as threatened or endangered under the ESA. It has also been petitioned for federal listing (USFWS 1994). The southern portion of the Dunes is within the State of Utah's Coral Pink Sand Dunes State Park, and the northern portion of the Dunes is public lands managed by the BLM Kanab BLM Field Office. The BLM portion of the Dunes is within the Moquith Mountain Wilderness Study Area. A Conservation Agreement and Strategy for the Coral Pink Sand Dunes tiger beetle was completed in 1997 (USFWS Species Assessment and Listing Priority Assignment Form, dated June 30, 2004). In April 2000 the Coral Pink Sand Dunes State Park and BLM jointly prepared a LUP amendment for the Coral Pink Sand Dunes. In August 2000, BLM approved an amendment to the Vermilion Management Framework Plan (MFP) to establish management for its portion of the Coral Pink Sand Dunes as described in the joint LUP amendment. Following completion of this plan amendment, two conservation areas to maintain and protect tiger beetle populations were established. One

conservation area is within the Coral Pink Sand Dunes State Park and the other area is on the adjacent BLM-managed lands.

Only one metapopulation exists, within the approximately eight square miles of the Coral Pink Sand Dunes. The species has an extremely limited distribution and is confined to less than ten percent of the total dune system (NatureServe 2005). Virtually the entire larval population of the Coral pink sand dunes tiger beetle is confined to one 3,000 feet by 1,000 feet site (approximately 69 acres). Over 90 percent of the Coral Pink Sand Dunes tiger beetle's adult and larval populations are restricted to a relatively small area of the dune field in Coral Pink Sand Dunes State Park, an area of 5,900 feet by 1,000 feet (approximately 135 acres) (USFWS Species Assessment and Listing Priority Assignment Form, dated June 30, 2004). A disjunct larval bed and very small group of adults occurs on the BLM-managed land a few miles northeast of the Coral Pink Sand Dunes tiger beetle's main occupied habitat (USFWS Species Assessment and Listing Priority Assignment Form, dated June 30, 2004).

Environmental Baseline

Status of the Species within the Action Area

This field office contains the only known population of this species. The population has low to extremely low numbers varying between years and at times falling below 100 adults (NatureServe 2005). The population fluctuates and at least occasionally approaches sub-viable levels. The population numbers are extremely low for an insect. Extensive survey work in other dune systems in Utah and adjoining states have failed to locate additional populations of this distinct species (NatureServe 2005). Annual surveys are conducted by Barry Knisley and Charles Gowan from the department of Biology at Randolph-Macon College. Population numbers appear to coincide with rainfall amounts during the months of May-June.

Factors Affecting Species Environment within the Action Area

The small population size and restricted range of this species make it susceptible to random catastrophic events. Collecting may be a possible threat, but there is no actual evidence collecting is a problem (NatureServe 2005). Off-highway vehicle (OHV) activity has been attributed to destroying and degrading the beetle's habitat, especially the inter-dunal swales used by the larval population (Knisley and Hill 2001). Drought conditions could also threaten the species. Daily rainfall amounts and the number of rainy days are important to the ecology of Coral Pink Sand Dunes tiger beetle. Rainfalls dictate the soil moisture which affects recruitment and survival of larvae. In 1999, researchers conducted artificial watering studies. The effects of artificial watering on larval survival and development indicated the periodic artificial watering significantly increased larvae numbers and their speed of development. Rainfall during the months of May-June is critical for adult oviposition, larval recruitment, and first instar larval survival. Without moist soil these parameters will be significantly reduced and result in low adult numbers in the following 1-2 years (Knisley 2006).

Effects of the Action

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles.

Water Resources

Program objectives are to protect, maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards. Potential activities occurring under this program include monitoring and treating soil erosion, evaluating and restricting surface development, monitoring water quality, applying soil management practices, and applying seasonal closures. Field activities may involve use of heavy machinery and hand tools to develop (closely linked management with Riparian Resources Program Management) riparian/wetland exclosures; stream crossings to allow for appropriate sediment and flow passage; and other stream improvements.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles.

Vegetation Resources

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of soil erosion, compaction and sedimentation and the introduction of invasive weed species. This could result

in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat on for wildlife and fisheries, and provide habitats for threatened and endangered species.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of soil compaction, erosion and sedimentation and the introduction of invasive weed species. Use of herbicides and other chemicals would directly impact beetles or modify occupied habitat vegetation. This could result in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of soil compaction, erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, stream alteration, and minor surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of soil compaction, erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, and surface disturbance in the project area. These actions could result in crushing of beetles by machinery, increases of soil compaction, erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Hazardous Materials and Public Safety Management

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Activities occurring under this program may increase human presence, equipment and vehicle use, vegetation manipulation, and minor surface disturbance in the project area. The area may also be exposed to hazardous materials. These actions could result in crushing of beetles by machinery, increases of soil compaction, erosion and sedimentation and the introduction of invasive weed species. This could result in the direct and indirect mortality of tiger beetles, as well as render some habitat unsuitable for tiger beetle use.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects candidate species Pink Coral Sands tiger beetle under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' suitable or potential habitat.
- Encroachment of human development into a species' suitable or potential habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah
    - County Governments in Utah

- Local Governments in Utah
- Private landholders in Utah

The tiger beetle is restricted to the Coral Pink Sand Dunes, which are partially managed by the Kanab Field Office and partially managed by Coral Pink Sand Dunes State Park. Activities that may occur in the state park have the ability to greatly impact the Coral Pink Sand Dunes tiger beetle. Development of campgrounds, trails, interpretive stations and increases in human presence OHV use are relatively certain to occur in this area. Contributing as cumulative effects to the proposed action, these activities will continue to affect tiger beetles by causing direct and indirect mortality, and rendering some habitat unsuitable through changes in vegetation composition.

Conclusion

The conclusions of this conference opinion are based on full implementation of the programs as described in the "Description of the Proposed Action" section of this document, including the conservation measures that were incorporated into the project design.

After reviewing the status of the Coral Pink Sand Dunes tiger beetle, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's conference opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to contribute to listing of the Coral Pink Sand Dunes tiger beetle. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

After reviewing the current status of the Coral Pink Sand Dunes tiger beetle, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, the Service acknowledges the BLM Kanab Field Offices statement that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to contribute to future listing of the Coral Pink Sand Dunes tiger beetle.

Western yellow-billed cuckoo *(Coccyzus Americanus)*

Status of the Species

Species Description

The western yellow-billed cuckoo is one of two subspecies of the western yellow-billed cuckoo (UDWR 2003). The western subspecies is found intermittently throughout the western United

States in dense riparian vegetation, including cottonwood and willow stands, tamarisk thickets, Russian olive, willows, and orchards. They primarily consume insects such as caterpillars, cicadas, beetles, grasshoppers, and katydids, as well as lizards, frogs, eggs of other birds, berries, and small fruits.

Life history and Population dynamics

The breeding season is in late spring and a nest is generally built from four to 10 feet off the ground in riparian vegetation. Both the male and the female incubate the three to four eggs for nine to 11 days. Both parents feed the young, which fledge in approximately three weeks (Kaufmann 1996).
Population density appears to rise and fall in relation to insect outbreaks (Kaufmann 1996).

Status and distribution

In 2001, the western subspecies of the western yellow-billed cuckoo was designated as a candidate for listing (threatened or endangered status) under the ESA (66 Federal Register 38611-38626). The USFWS has found that the species population status warrants listing but other, higher priority listing actions prevent them from addressing the cuckoo's status at this time.
This species occurs intermittently across the state; however, most breeding locations have not been confirmed. Historically, breeding was recorded in Weber, Salt Lake, Utah, and Washington Counties. Recent breeding has been confirmed in Salt Lake, Grand, and Uintah Counties. Although it is not known to breed throughout the state, it has been recorded in the riparian habitats of the following 14 counties: Wayne, Garfield, Box Elder, Cache, Davis, Salt Lake, Wasatch, Utah, Uintah, Grand, San Juan, Washington, Iron, and Juab. It is considered a candidate for listing in all of Utah's 29 counties except Rich (UDWR 2003).

Environmental Baseline

Status of the Species within the Action Area

Western yellow-billed cuckoo have not been known to occur within the planning area.

Factors Affecting Species Environment within the Action Area

Threats the western yellow-billed cuckoo faces are related to habitat destruction and degradation from the invasion of tamarisk, livestock use of riparian areas, water withdrawals, and human development (UDWR 2003). The availability of suitable western yellow-billed cuckoo habitats in the Kanab region is seriously limited by dry conditions, narrowness of existing riparian zones, grazing and the presence of brown headed cowbirds.

Effects of the Action

Soil Resources

The objectives for the soil resources management program are to maintain and improve soil integrity, and long-term soil productivity through implementation of rangeland health standards and other soil protection measures. Generally, the soil management program provides information in support of other resource objectives and goals. Therefore, potential impacts are deemed to be primarily beneficial.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, stream alteration, and minor surface disturbance in western yellow-billed cuckoo habitat. Short-term adverse impacts may include, but not be limited to: decreased nesting habitat; decreased cover from predators; decreased prey habitat; and alterations of water distribution within suitable habitat for western yellow-billed cuckoos. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Water Resources

Program objectives are to protect, maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards. Potential activities occurring under this program include monitoring and treating soil erosion, evaluating and restricting surface development, monitoring water quality, applying soil management practices, and applying seasonal closures. Field activities may involve use of heavy machinery and hand tools to develop (closely linked management with Riparian Resources Program Management) riparian/wetland exclosures; stream crossings to allow for appropriate sediment and flow passage; and other stream improvements.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation manipulation, stream alteration, and minor surface disturbance in western yellow-billed cuckoo habitat. Short-term adverse impacts may include, but not be limited to: decreased nesting habitat; decreased cover from predators; decreased prey habitat; and alterations of water distribution within suitable habitat for western yellow-billed cuckoos. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Vegetation Resources

Program objectives are to maintain or improve the diversity of plant communities to support timber production, livestock needs, wildlife habitat, watershed protection, and acceptable visual resources. Therefore, this program includes mechanical, chemical, biological, cultural vegetation management methodologies. These management methodologies may result in ground disturbing activities, chemical impacts, human disturbances, and impacts to vegetation from biological management techniques.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance (mechanical, chemical, biological), and surface disturbance in western yellow-billed cuckoo habitat Associated noise disturbances may cause avoidance of available habitat. Vegetation alteration, removal, or inadvertent chemical treatment may adversely affect availability and quality of nesting habitat; decrease cover from predators; and decrease insect prey populations. Soil disturbances may increase erosion, adversely affect soil stability, increase sediment deposits, and alter channel morphology. As a result, there may be decreases available habitat for the western yellow-billed cuckoo.

Fish and Wildlife Management

This program aims to maintain biological diversity, improve habitat on for wildlife and fisheries, and provide habitats for threatened and endangered species.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in potential western yellow-billed cuckoo habitat. Associated noise disturbances may cause avoidance of habitat. Vegetation disturbances or vegetation removal may adversely affect availability of nesting habitat, cover from predators, and insect prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Wildland Fire Management

Objectives of fire management are to protect life, property, and resources values from wildfire and restore the natural role of fire in the ecosystem. Major activities associated with the fire management program include: wildfire suppression, wildland fire use, prescribed burning, non-fire fuels treatments (mechanical and chemical), and emergency stabilization and rehabilitation following wildfires. Fire suppression methods may involve: fireline construction, use of fire suppression agents and retardants, and water withdrawals.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in potential western yellow-billed cuckoo habitat. Associated noise disturbances may cause avoidance of these habitats. Vegetation disturbances or vegetation removal decrease availability of nesting habitat; decrease cover from predator; and decrease prey habitat. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species. Long-term benefits of this program, as vegetation is reestablished, may include: increased insect prey abundance and increased potential habitat.

Cultural Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up

to several weeks. Inventories for cultural resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in potential western yellow-billed cuckoo habitat. Noise disturbances may cause avoidance of potential habitat. Vegetation disturbances or removal may decrease the availability of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. As a result, potential western yellow-billed cuckoo habitat may become degraded and unable to support this species.

Paleontological Resources

This program includes surveys, inventories, excavation activities, surface material collection, and interpretive site development. Surveys may involve multiple people and vehicles and can last up to several weeks. Inventories for paleontological resources commonly entail the use of hand tools, power tools, or heavy machinery.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), and surface disturbance in potential western yellow-billed cuckoo habitat. Noise disturbances may cause avoidance of potential habitat. Vegetation disturbances or removal may decrease the availability of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species..

Forestry and Woodland Products Resources

The forest management program permits commercial timber harvest in order to promote forest health, and manages the commercial, non-commercial, and Native American harvest of woodland products including posts, Christmas trees and fuel wood.

Forest resources support activities such as road construction may occur in or near existing or suitable western yellow-billed cuckoo habitat. Impacts associated with these activities are described under the Lands and Realty Program effects analysis.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in yellow-billed cuckoo habitat. Associated noise disturbances may cause avoidance of potential habitat. Vegetation disturbances, vegetation removal, or chemical treatment of vegetation decrease availability of nesting habitat and decrease prey populations and prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for yellow-billed cuckoo and their prey species. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Livestock Grazing Management

The objective of livestock grazing management is to maintain or improve forage production and range condition as a sustainable resource base for livestock grazing on BLM land. Livestock management includes designating the kind and class of livestock, seasons of use, locations of use and the numbers of livestock that are permitted to use BLM lands.

Range management activities may include vegetation treatments such as prescribed fire, mechanical and chemical control of noxious weeds, sagebrush and other target species. The determinations and effects analyses associated with the potential impacts of these treatments can be located under the other appropriate program headings (i.e., fire treatments – see Fire Management, or vegetative treatments – see Vegetation Management). Other range improvements authorized by the livestock grazing management program may include fence construction, water developments, exclosures, and livestock handling facilities.

There are four primary ways livestock manipulate habitats to favor/hinder some wildlife species: 1) alteration of vegetation composition, 2) cause increased/decreased productivity of selected plant species, 3) increase/decrease the nutritive quality of available forage, and/or 4) increase/decrease the diversity of habitats by altering structure (Severson and Urness 1994).

Activities occurring under this program may increase human presence (including associated noise disturbances), vegetation disturbance, and minor surface disturbance in yellow-billed cuckoo habitat. Vegetation disturbances, vegetation removal, or vegetation alteration may result in less dense vegetation; an increase in invasive plant species; increased fragmented habitat; reduced availability of nesting habitat; decreased cover from predators; and decreased availability prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Recreation Management

The recreation program includes providing for and managing recreational access, developing and maintaining recreation areas, issuing special recreation permits, providing information to the public about BLM's recreational resources, and assessing effects of recreational use on the natural resources. Under this program, OHV use, camping, rafting, hiking, fishing, boating, swimming, and other activities are allowed in designated areas.

Authorized activities under this program have the potential to increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in potential yellow-billed cuckoo habitat. Associated noise disturbances may cause avoidance of potential habitat. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for yellow-billed cuckoo and their

prey species. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Lands and Realty Management

Objectives of the lands and realty management program are to support multiple-use management goals of the BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and acquire and designate rights of way access to serve administrative and public needs. Realty management authorizes occupancy of public lands for roads, power lines, pipelines, communication sites, and irrigation ditches authorized by granting rights of way. Rights of way management actions respond to public requests for access, land authorizations, sales, and exchanges. These rights of way may be temporary or extend up to 30 years, or even in perpetuity.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation disturbance, and surface disturbance in yellow-billed cuckoo habitat. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for yellow-billed cuckoo and their prey species. Exchange or sales of lands may lead to habitat fragmentation and loss. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Minerals and Energy Management

The planning area will be open to consideration for exploration, leasing, and development of leasable minerals (oil, gas, coal, oil shale, and geothermal), and salable minerals (sand, gravel, sandstone, shale, limestone, basalt, and granite rock). Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. Mineral exploration and extraction often results in surface disturbance from road and facility construction, removal of topsoil and overburden, stock piling of these materials, and post-mining reclamation and recontouring.

Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), surface disturbance, and increased occurrence of chemical leaks in yellow-billed cuckoo habitat. Associated noise disturbances may cause avoidance of potential habitats. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. Increased occurrence of invasive plants species may change the vegetation community and change the habitat for yellow-billed cuckoo and their prey species. Pollutants in the area may affect prey populations, and vegetation. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Hazardous Materials and Public Safety Management

Activities conducted under the hazardous materials program include providing warnings, securing and disposing of hazardous waste discharged on public lands, establishing precautions, and responding to emergencies. Activities may involve increased human presence, use of heavy equipment, and removal of contaminated soils. These activities have the potential to occur in locations where mineral development or transport occurs.

Mineral developments, pipelines, roads, and railroad transportation systems occur within all of the planning areas analyzed in this document, and have the potential to occur in yellow-billed cuckoo habitat. Activities occurring under this program may increase human presence, equipment and vehicle use (including associated noise disturbances), vegetation treatment or disturbance, and surface disturbance in potential yellow-billed cuckoo habitat. Vegetation disturbances or vegetation removal may decrease the availability and quality of nesting habitat; decrease cover from predators; and decrease the availability of prey habitat. Soil disturbances may increase erosion, adversely affect soil stability, and increase sediment deposits. As a result of these impacts, potential habitat may be degraded and become unsuitable for this species.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this conference opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Cumulative effects to candidate species western yellow-billed cuckoo under the Proposed Actions would include, but are not limited to, the following broad types of impacts:

- Changes in land use patterns or practices that adversely affect a species' suitable or potential habitat.
- Encroachment of human development into a species' suitable or potential habitat.
- Fire management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM-administered lands:
    - State of Utah
    - County Governments in Utah
    - Local Governments in Utah
    - Private landholders in Utah

Western yellow-billed cuckoo have not been found in the planning area. However, small amounts potential and suitable habitat occurs within the jurisdictional management boundaries of BLM in the Kanab Field Office area. In these areas, western yellow-billed cuckoo habitat is surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Western yellow-billed cuckoo are susceptible to activities on State and private lands. Many of these activities, such as urban growth and development; construction and operation of dams along major waterways; water retention, diversion, or dewatering of springs, wetlands, or streams; recreation; road construction; fuels-reduction treatments; research; grazing

activities (including alteration or clearing of native habitats for domestic animals); oil and gas exploration and development; introduction of non-native plant or wildlife species (which can alter native habitats and alter prey populations); and other associated actions. Increases or changes in cowbird foraging areas (construction of corrals, grazing of domestic stock, placement of bird feeders) and habitat fragmentation may increase the parasitism rate and prevent western yellow-billed cuckoo habitat use in the planning area. Increased recreation, camping, off-road vehicle use, and river trips may harass and disturb breeding birds or impact nesting habitats. Contributing as cumulative effects to the proposed action, these activities will continue to affect western yellow-billed cuckoo presence with disturbances to breeding, nesting, and foraging behaviors and habitat (including areas of designated critical habitat), and further fragmenting habitat.

Conclusion

The conclusions of this conference opinion are based on full implementation of the programs as described in the "Description of the Proposed Action" section of this document, including the conservation measures that were incorporated into the project design.

After reviewing the status of western yellow-billed cuckoo, the environmental baseline for the action area, the effects of the proposed project, and the cumulative effects, it is the Service's conference opinion that the Kanab BLM Field Office Resource Management Plan, as proposed, is not likely to contribute to listing of western yellow-billed cuckoo. We base our conclusion on the following:

1. The applicant committed resource protection measures will be incorporated into site-specific projects designed under the BLM Resource Management Plan. If project design can not adhere to all applicant committed resource protection measures, consultation under Section 7 of the Endangered Species Act will be initiated.

2. All site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, as amended, prohibits take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 CFR § 17.3). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR § 17.3).

Actual take levels are unquantifiable because the KFO BLM Resource Management Plan implementation includes all possible projects authorized on all Kanab Field Office lands in Utah and may occur within threatened or endangered species' habitats. However, although unquantifiable, take may occur through harm and harassment. Therefore, in the event that the applicant committed Conservation Measures are not completely incorporated into project-specific design, or if site-specific characteristics may lead to effects not considered in this biological opinion, section 7 consultation will be reinitiated at the project-specific level.

No exemption from Section 9 of the Act is granted in this biological opinion. BLM's implementation of Resource Management Plans is likely to adversely affect listed species. The likelihood of incidental take, and the identification of reasonable and prudent measures and terms and conditions to minimize such take, will be addressed in project-level consultations. Levels of incidental take and measures to reduce such take cannot be effectively identified at the level of proposed action because of the broad geographic scope and time frame, and the lack of site specific information. Rather, incidental take and reasonable and prudent measures may be identified adequately through subsequent actions subject to section 7 consultations at the project-specific scale.

REASONABLE AND PRUDENT MEASURES / TERMS AND CONDITIONS

BLM coordinated and developed, with the U.S. Fish and Wildlife Service, species-specific conservation measures. These conservation measures were included as part of the Resource Management Plan project description. Therefore, the Service believes that additional Reasonable and Prudent Measures and Terms and Conditions will not be necessary in this programmatic opinion due the BLM's proactive initiation to minimize impacts on listed species. We commend BLM's efforts to conserve and protect threatened and endangered species. It is possible that additional reasonable and prudent measures and terms and conditions may be required on a project-specific level, in a tiered consultation to this programmatic opinion.

RECOMMENDED CONSERVATION MEASURES

The U.S. Fish and Wildlife Service recommends incorporating the following guidance into the Resource Management Plan to ensure successful management, protection, and recovery of listed species and their habitats at the landscape and site-specific levels. The Service understands that Recommended Measures are not always feasible or applicable for all projects. Available Recovery Plans, Conservation Agreements/Strategies, Scientific Literature, and other available information should consistently be applied to occupied, suitable, and potentially suitable habitats of listed species. The following recommendations should be used in conjunction with available species-specific plans and literature and appropriately applied at the landscape and site-specific planning levels in a manner that ensures conservation and recovery of listed and sensitive species. In general, these guidelines should apply to listed and sensitive species habitats in areas of known and likely occurrence, particularly where recovery and conservation objectives have been identified by available species-specific plans.

All Species

- Avoid land trades/disposals of listed and sensitive species habitats.
- Avoid the broad-scale use of pesticides and insecticides in habitats of listed species, during sensitive time periods such as breeding and nesting seasons.
- Avoid use of pesticides in riparian habitats and areas adjacent to riparian areas. If used, avoid drift and apply non-persistent pesticides with low bioaccumulation potential.
- Encourage management that maintains sagebrush ecological sites.
- Avoid practices that permanently convert sagebrush shrubland to nonnative grassland.
- Implement management strategies that maintain or improve degraded riparian communities; protect natural flow requirements; protect water quality; manage for stable non-eroding banks; and manage for year-round flows.

- Manage riparian areas from a watershed perspective. Ensure that riparian areas within the project are as continuous as possible along the entire drainage and are as wide as the soil and water table will allow riparian vegetation to exist.

- Manage riparian areas to ensure a multi-aged, multi-layered structure, allowing for retention of snags and diseased trees. Provide multiple layers of vegetation (vertical structure) within 10 feet of the ground.

- Enhance the protection of wetland functions by emphasizing the protection of natural wetland structure, composition, and ecological processes.

- Establish appropriate buffers between wetlands and incompatible land uses adequate to preserve the functional integrity of the wetlands.

- Discourage development of natural water sources under BLM's management.

- When considering spring development/redevelopment, evaluate springs for occurrence of flora and fauna, with particular focus on detecting rare or unique species. Maintain sufficient water to sustain native flora and fauna. Return unused or overflow water to its original drainage. Protect the spring source area from detrimental impacts, e.g. from livestock, recreationists. Protect the spring source from risk of degradation of water quality.

- Fully mitigate all unavoidable habitat losses for listed and migratory birds, at a suggested ratio of 1:1.. Mitigate all unavoidable riparian losses at a suggested ratio of 2:1. This ratio may be increased if mitigation does not occur prior to disturbance, if replacement habitat is less valuable than lost habitat, if habitat fragmentation is causing broad-scale impacts to remaining available habitats, or other reasons. Both direct and indirect habitat losses will be considered and fully mitigated.

- Include native forbs and grasses in seeding mixtures where feasible.

- Monitor condition of habitat in occupied, suitable, or potentially suitable habitat for listed and sensitive species to ensure maintenance of good to excellent ecological conditions; restoration and conservation of good to excellent aquatic habitat conditions; and consistent with available species-specific habitat requirements.

- Consider wildlife use when designing spring exclosures.

- If water developments occur, divert water several hundred feet downstream of the water source to allow wildlife to benefit, hydric species to perpetuate, and water quality to remain high.

- Limit the amount of time livestock spend in pastures with riparian areas; base grazing seasons/length on condition of riparian vegetation.

- Maintain or modify existing grazing regimes to promote growth of desirable vegetation and maintain desirable understory vegetation. Temporarily remove grazing from degraded habitats and habitats recovering from fire and other disturbances.

- Manage grazing to maintain riparian habitats with all desirable vegetation structure and age classes.

- Avoid construction or expansion of recreation facilities within occupied, suitable, and potentially suitable habitat for listed and sensitive species.

- Limit the number of new roadways in project areas when possible to protect wildlife and plant resources. Decommission unnecessary roads and reclaim unauthorized illegal trails in habitats important to listed and sensitive species.

- Where appropriate at designated recreation sites, design recreation activities that are predictable for wildlife; i.e. provide well-marked trails or boardwalks to encourage controlled and predictable human use away from listed and sensitive species habitats, and discourage off-trail hiking and creation of alternate routes.

- Avoid constructing new trails along or parallel to riparian areas.

- Reduce or restrict recreational uses including, but not limited to, all-terrain vehicles, bicycles, horses, birdwatchers, and hikers in riparian areas.

- Where recreation conflicts with use by listed and sensitive species, and area closures are not practical, provide on-site monitoring to educate users and control use.

- Sponsor programs and post signs that educate users about the value of riparian habitat to listed and sensitive species.

- Provide interpretive site and literature on recognition and value of protecting biological soil crusts at major access points in areas of extensive or unique crust formation.

- Avoid building new roads and trails in riparian areas, and avoid stream crossings.

- Close affected watersheds and/or riparian areas to livestock grazing for one or more years to allow for recovery of riparian vegetation. The appropriate length of time for closure to grazing will depend on site-specific characteristics.

- Avoid or restrict mineral development activities in riparian habitats.

- Disturbances of all suitable habitats for listed and sensitive species will be improved to provide adequate habitat (pre-disturbance condition or better).

Yellow-billed cuckoo

- Avoid destruction of existing native cottonwood-willow dominated riparian forests and restore riparian habitats where possible.

- Eliminate loss of dense shrub layers in existing riparian areas and restore shrub areas where absent, when ecologically appropriate.

- Closely monitor grazing, recreational, and other impacts on cottonwood and willow seedlings in riparian systems and reduce or remove sources when seedlings are being impacted.

- Avoid habitat altering activities in riparian areas.

Utah prairie dog

- Maintenance of existing recreation facilities within active Utah prairie dog sites should be avoided during the active season (March 1 – July 1).

Mexican spotted owl

- Consider seasonal (March 1 – August 31) and spatial (0.5 mile) closures for recreational activities within PAC areas and suitable owl habitats.

- Maintenance of existing facilities within occupied (including PACs) and suitable Mexican spotted owl habitats should be avoided during the breeding season (March 1 – August 31).

- Implement recreational restrictions that protect occupied (including PACs) and suitable Mexican spotted owl habitats. Include these restrictions as part of all special recreation permits. Examples include, but are not limited to group size limits, length of stay, allowed use areas.

- Avoid road or trail building within PACs.

- Assess the presence and intensity of recreational activities in PACs, and apply appropriate measures to minimize impacts to the Mexican spotted owl and its habitat, in accordance with Recovery Plan recommendation and best available scientific information.

- Limit OHV and Guided Vehicle Tour uses to designated road and trails in Mexican spotted owl habitat and PACs.

- Conduct pre- and post-monitoring of Mexican spotted owl habitat conditions in PAC areas for surface disturbing activities.

Southwestern willow flycatcher

- Provide that areas of stop over and potentially suitable habitat the southwestern willow flycatcher are protected from impacts associated with recreational use; i.e. confine camping areas, restore impacted habitats, minimize attractants to scavengers, predators, and brown-headed cowbirds as appropriate.

- Minimize noise disturbance near suitable and potentially suitable southwestern willow flycatcher habitat. Measures may include, but are not limited to, rerouting trails and day use areas away from habitats, controlling the number of visitors, and discouraging use of loud equipment near breeding locations.

- Restore or maintain perennial surface flows and shallow groundwater in suitable southwestern willow flycatcher habitats, and areas targeted for restoration of suitable habitat.

- Avoid habitat altering activities in riparian areas.

- Unavoidable disturbances of riparian habitats suitable for southwestern willow flycatchers will be restored (pre-disturbance conditions or better) to provided adequate habitat for the species.

Plants

- Avoid use of aerosol insecticides within 3 miles of listed plant populations to protect pollinators.

RE-INITIATION STATEMENT

This is a program-level document that does not include project specific detail for actions authorized by the Resource Management Plan. Additional consultation with USFWS will be necessary for any authorized project specific action that may impact any listed species
This concludes formal consultation on the Kanab BLM Field Office Resource Management Plan. As provided in 50 CFR §402.16, re-initiation of formal consultation is required if: 1) new information reveals effects of the agency action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion, 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion, 3) a new species is listed or critical habitat designated that may be affected by the action, or 4) a project proposing biological control measures is proposed.

Thank you for your interest in conserving threatened and endangered species. If we can be of further assistance, please contact Katherine Richardson at (801) 975-3330 ext. 125 or Laura Romin at ext. 123.

ORIGINAL SIGNED

bcc: Project File
Reading File

RICHARDSON/jrc:9/29/08
File: Formal Files 6-UT-08-F-020
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APPENDIX A – BLM COMMITTED CONSERVATION MEASURES AND LEASE NOTICES

The following conservation strategy for special status species located in the planning area, includes measures identified as a part of the Proposed RMP. It also includes BLM-committed conservation measures which were developed in consultation with the USFWS on other plans including the Biological Opinion for the Utah BLM Land Use Plans Amendments BA (USFWS 2007), oil and gas lease notices developed and consulted on in 2004 (USFWS, 2004), and conservation measures developed in connection with implementation of the statewide fire management plan land use plan amendment. In addition, this BA identifies several best management practices (BMPs) which are optional measures that would further protect and conserve listed species when implemented. Implementation of these measures would provide flexibility of management, and more practicality in implementing protective measures for the conservation and recovery of listed species.

1.0 BLM COMMITTED CONSERVATION MEASURES

BLM-committed conservation measures, which would be incorporated into the Proposed RMP are binding species-specific measures intended to protect species, and minimize the potential for adverse impacts that may result from the implementation of BLM-authorized activities on special status species. This is not a comprehensive list, in that other modified versions of these measures may be imposed for any BLM-authorized activity following further analyses or reviews, and/or consultation and coordination with USFWS.

1.1 Oil and Gas Lease Notices

The following oil and gas lease notices were developed in consultation with USFWS in 2004.

Lease Notice—Mexican Spotted Owl

The lessee/operator is given notice that the lands in this lease contain suitable habitat for MSO, a federally listed species. **Insert the following if the lease contains Designated Critical Habitat:** *[The Lessee/Operator is given notice that the lands in this lease contain Designated Critical Habitat for the Mexican spotted owl, a federally listed species. Critical habitat was designated for the Mexican spotted owl on August 31, 2004 (69 FR 53181-53298).]* Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent and whether it occurs within or outside the owl nesting season. A *temporary* action is completed prior to the following breeding season, leaving no permanent structures and resulting in no permanent habitat loss. A *permanent* action continues for more than one breeding season and/or causes a loss of owl habitat or displaces owls through disturbances (i.e., creation of a permanent structure). The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Adhering to these measures could reduce the scope of Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individuals.

2. Assess habitat suitability for nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the conservation measures below if project activities

occur within ½ mile of suitable owl habitat. Determine potential effects of actions on owls and their habitat:

3. Document type of activity, acreage and location of direct habitat impacts, and type and extent of indirect impacts relative to location of suitable owl habitat.

4. Document if action is temporary or permanent.

5. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

6. Water production will be managed to ensure riparian habitat is maintained or enhanced.

7. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in canyon habitat suitable for MSO nesting.

8. For all temporary actions that may impact owls or suitable habitat:

9. If the action occurs entirely outside the owl breeding season (March 1 to August 31) and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.

10. If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity must be delayed until outside of the breeding season.

11. Rehabilitate access routes created by the project through such means as raking out scars, revegetation, and gating access points.

12. For all permanent actions that may impact owls or suitable habitat:

13. Survey two consecutive years for owls according to accepted protocol prior to commencing activities.

14. If owls are found, no actions will occur within ½ mile of identified nest site. If nest site is unknown, no activity will occur within the designated PAC.

15. Avoid drilling and permanent structures within ½ mile of suitable habitat unless surveyed and not occupied.

16. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at ½ mile from suitable habitat, including canyon rims. Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a ½-mile buffer for suitable habitat, including canyon rims.

17. Limit disturbances to and within suitable habitat by staying on approved routes.

18. Limit new access routes created by the project.

Additional measures to avoid or minimize effects on the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

Lease Notice—California condor

The Lessee/Operator is given notice that the lands located in this parcel contain potential habitat for the California Condor, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease if the area is known or suspected to be used by condors. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside potential habitat. A temporary action is completed prior to the following important season of use, leaving no permanent structures and resulting in no permanent habitat loss. This would include consideration for habitat functionality. A permanent action continues for more than one season of habitat use, and/or causes a loss of condor habitat function or displaces condors through continued disturbance (i.e. creation of a permanent structure requiring repetitious maintenance, or emits disruptive levels of noise).

The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the Endangered Species Act. Integration of, and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Following these measures could reduce the scope of Endangered Species Act, Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All Surveys must be conducted by qualified individual(s) approved by the BLM, and must be conducted according to approved protocol.

2. If surveys result in positive identification of condor use, all lease activities will require monitoring throughout the duration of the project to ensure desired results of applied mitigation and protection. Minimization measures will be evaluated during development and, if necessary, Section 7 consultation may be reinitiated.

3. Temporary activities within 1.0 mile of nest sites will not occur during the breeding season.

4. Temporary activities within 0.5 miles of established roosting sites or areas will not occur during the season of use, August 1 to November 31, unless the area has been surveyed according to protocol and determined to be unoccupied.

5. No permanent infrastructure will be placed within 1.0 mile of nest sites.

6. No permanent infrastructure will be placed within 0.5 miles of established roosting sites or areas.

7. Remove big game carrion to 100 feet from on lease roadways occurring within foraging range.

8. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable habitat Utilize directional drilling to avoid direct impacts to large cottonwood gallery riparian habitats. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.

9. Reinitiation of Section 7 consultation with the Service will be sought immediately if mortality or disturbance to California condors is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

Additional measures may also be employed to avoid or minimize effects to the species between the lease sale and lease development stages. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the Endangered Species Act.

Lease Notice—Utah Prairie Dog

The lessee/operator is given notice that lands in this lease may contain historic and/or occupied Utah prairie dog habitat, a threatened species under the ESA. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent and whether it occurs when prairie dogs are active or hibernating. A *temporary* action is completed prior to the following active season, leaving no permanent structures and resulting in no permanent habitat loss. A *permanent* action continues for more than one activity/hibernation season and/or causes a loss of Utah prairie dog habitat or displaces prairie dogs through disturbances (i.e., creation of a permanent structure). The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Adhering to these measures could reduce the scope of Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individuals.

2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

3. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in prairie dog habitat.

4. Surface occupancy or other surface disturbing activity will be avoided within ½ mile of active prairie dog colonies.

5. Permanent surface disturbance or facilities will be avoided within ½ mile of potentially suitable, unoccupied prairie dog habitat, identified and mapped by UDWR since 1976.

6. The lessee/operator should consider if fencing infrastructure on the well pad (e.g., drill pads, tank batteries, and compressors) would be needed to protect equipment from burrowing activities. The operator should also consider if future surface disturbing activities would be required at the site.

7. Within occupied habitat, set a 25-mph speed limit on operator-created and -maintained roads.

8. Limit disturbances to and within suitable habitat by staying on designated routes.

9. Limit new access routes created by the project.

Additional measures to avoid or minimize effects on the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

Lease Notice—Southwestern Willow Flycatcher

The lessee/operator is given notice that the lands in this parcel contain riparian habitat that falls within the range for Southwestern willow flycatcher, a federally listed species. Avoidance or use restrictions may be placed on portions of the lease. Application of appropriate measures will depend on whether the action is temporary or permanent, and whether it occurs within or outside the nesting season. A temporary action is completed prior to the following breeding season, leaving no permanent structures and resulting in no permanent habitat loss. A permanent action continues for more than one breeding season and/or causes a loss of habitat or displaces flycatchers through disturbances (e.g., creation of a permanent structure). The following avoidance and minimization measures have been designed to ensure activities carried out on the lease are in compliance with the ESA. Integration of and adherence to these measures will facilitate review and analysis of any submitted permits under the authority of this lease. Adhering to these measures could reduce the scope of Section 7 consultation at the permit stage.

Current avoidance and minimization measures include the following:

1. Surveys will be required prior to operations unless species occupancy and distribution information is complete and available. All surveys must be conducted by qualified individuals and according to protocol.

2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

3. Water production will be managed to ensure maintenance or enhancement of riparian habitat.

4. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in suitable riparian habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.

5. Drilling activities will maintain a 300-foot buffer from suitable riparian habitat year long.

6. Drilling activities within ¼ mile of occupied breeding habitat will not occur during the breeding season of May 1 to August 15.

7. Ensure that water extraction or disposal practices do not result in change of hydrologic regime that would result in loss or degradation of riparian habitat.

8. Revegetate with native species all areas of surface disturbance within riparian areas and/or adjacent uplands.

Additional measures to avoid or minimize effects on the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

Lease Notice—Listed Plant Species

The lessee/operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the ESA. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

1. Site inventories:
   a. Must be conducted to determine habitat suitability.
   b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods.
   c. Documentation should include but not be limited to individual plant locations and suitable habitat distributions.
   d. All surveys must be conducted by qualified individuals.
2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.
3. Project activities must be designed to avoid direct disturbance to populations and to individual plants:
   a. Designs will avoid concentrating water flows or sediments into plant occupied habitat.
   b. Construction will occur down-slope of plants and populations where feasible; if well pads and roads must be sited up-slope, buffers of 100 feet minimum between surface disturbances and plants and populations will be incorporated.
   c. Where populations occur within 200 feet of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction.
   d. Areas for avoidance will be visually identifiable in the field (e.g., flagging, temporary fencing, or rebar).
   e. For surface pipelines, use a 10-foot buffer from any plant locations:
      i. If on a slope, use stabilizing construction techniques to ensure the pipelines do not move toward the population.
4. For riparian/wetland-associated species (e.g., Ute ladies-tresses), avoid loss or disturbance of riparian habitats:
   a. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.
5. Limit disturbances to and within suitable habitat by staying on designated routes.
6. Limit new access routes created by the project.
7. Place signing to limit all-terrain vehicle (ATV) travel in sensitive areas.
8. Implement dust abatement practices near occupied plant habitat.
9. All disturbed areas will be revegetated with native species composed of species indigenous to the area.
10. Post-construction monitoring for invasive species will be required.
11. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.
12. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

Additional measures to avoid or minimize effects on the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

Lease Notice—Welsh's Milkweed

In order to minimize effects to the federally threatened Welsh's milkweed, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the Endangered Species Act (ESA). For the purposes of this document, the follow terms are so defined:

- Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.
- Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html.
- Occupied habitat is defined as areas currently or historically known to support clay reed-mustard; synonymous with "known habitat."

The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable Welsh's milkweed habitat is present.

2. Within suitable habitat, site inventories will be conducted to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Inventories:

3. Must be conducted by qualified individual(s) approved by BLM using accepted survey protocols,

4. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected and during appropriate flowering periods. Inventories should be conducted between June 1st and August 15th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower),

5. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,

6. Will include, but not be limited to, plant species lists and habitat characteristics, and is there more?

7. Design project infrastructure to minimize impacts within suitable habitat:

8. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

9. Reduce well pad size to the minimum needed, without compromising safety,

10. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,

11. Limit new access routes created by the project,

12. Roads and utilities should share common right-of-ways where possible,

13. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,

14. Place signing to limit off-road travel in sensitive areas, and

15. Stay on designated routes and other cleared/approved areas.

16. All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.

17. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:

18. Follow the above recommendations (#3) for project design within suitable habitats,

19. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,

20. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,

21. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from June 1st to August 15th (flowering period); dust abatement applications will be comprised of water only,

22. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

23. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

24. Construction activities will not occur from June 1st through August 15th within occupied habitat,

25. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,

26. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and

27. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

28. Occupied Welsh's milkweed habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

29. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Welsh's milkweed is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or minimize effects to the species. These additional measures will be developed and implemented in consultation with the U.S. Fish and Wildlife Service to ensure continued compliance with the ESA.

Lease Notice—Siler Pincushion Cactus

In order to minimize effects to the federally threatened Siler pincushion cactus, the Bureau of Land Management (BLM), in coordination with the U.S. Fish and Wildlife Service (Service), has developed the following avoidance and minimization measures. Implementation of these measures will help ensure the activities carried out during oil and gas development (including but not limited to drilling, production, and maintenance operations) are in compliance with the Endangered Species Act (ESA). For the purposes of this document, the follow terms are so defined:

- Potential habitat is defined as areas which satisfy the broad criteria of the species habitat description; usually determined by preliminary, in-house assessment.
- Suitable habitat is defined as areas which contain or exhibit the specific components or constituents necessary for plant persistence; determined by field inspection and/or surveys; may or may not contain clay reed-mustard; habitat descriptions can be found in Federal Register Notice and species recovery plan links at http://www.fws.gov/endangered/wildlife.html.
- Occupied habitat is defined as areas currently or historically known to support the Siler pincushion cactus; synonymous with "known habitat."

The following avoidance and minimization measures should be included in the Plan of Development:

1. Pre-project habitat assessments will be completed across 100% of the project disturbance area within potential habitat prior to any ground disturbing activities to determine if suitable Siler pincushion cactus habitat is present.

2. Within suitable habitat, site inventories will be conducted to determine occupancy. Where standard surveys are technically infeasible and otherwise hazardous due to topography, slope, etc., suitable habitat will be assessed and mapped for avoidance (hereafter, "avoidance areas"); in such cases, in general, 300' buffers will be maintained between surface disturbance and avoidance areas. However, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat. Inventories:

3. Must be conducted by qualified individual(s) approved by BLM using accepted survey protocols,

4. Will be conducted in suitable and occupied habitat for all areas proposed for surface disturbance prior to initiation of project activities and within the same growing season, at a time when the plant can be detected and during appropriate flowering periods. Inventories should be conducted between March 1st to May 15th, however, surveyors should verify that the plant is flowering by contacting a BLM or FWS botanist or demonstrating that the nearest known population is in flower,

5. Will occur within 300' from the centerline of the proposed right-of-way for surface pipelines or roads; and within 300' from the perimeter of disturbance for the proposed well pad including the well pad,

6. Will include, but not be limited to, plant species lists and habitat characteristics, and

7. Will be valid until April 1st the following year.

8. Design project infrastructure to minimize impacts within suitable habitat:

9. Where standard surveys are technically infeasible, infrastructure and activities will avoid all suitable habitat (avoidance areas) and incorporate 300' buffers, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

10. Reduce well pad size to the minimum needed, without compromising safety,

11. Where technically and economically feasible, use directional drilling or multiple wells from the same pad,

12. Limit new access routes created by the project,

13. Roads and utilities should share common right-of-ways where possible,

14. Reduce the width of right-of-ways and minimize the depth of excavation needed for the road bed; where feasible, use the natural ground surface for the road within habitat,

15. Place signing to limit off-road travel in sensitive areas, and

16. Stay on designated routes and other cleared/approved areas.

17. All disturbed areas will be revegetated with native species comprised of species indigenous to the area and non-native species that are not likely to invade other areas.

18. Within occupied habitat, project infrastructure will be designed to avoid direct disturbance and minimize indirect impacts to populations and to individual plants:

19. Follow the above recommendations (#3) for project design within suitable habitats,

20. To avoid water flow and/or sedimentation into occupied habitat and avoidance areas, silt fences, hay bales, and similar structures or practices will be incorporated into the project design; appropriate placement of fill is encouraged,

21. Construction of roads will occur such that the edge of the right of way is at least 300' from any plant and 300' from avoidance areas,

22. Roads will be graveled within occupied habitat; the operator is encouraged to apply water for dust abatement to such areas from April 1st to June 15th (flowering period); dust abatement applications will be comprised of water only,

23. The edge of the well pad should be located at least 300' away from plants and avoidance areas, in general; however, site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

24. Surface pipelines will be laid such that a 300' buffer exists between the edge of the right of way and plants and 300' between the edge of right of way and avoidance areas; use stabilizing and anchoring techniques when the pipeline crosses suitable habitat to ensure pipelines don't move towards the population; site specific distances will need to be approved by FWS and BLM when disturbance will occur upslope of habitat,

25. Construction activities will not occur from April 1st through June 15th within occupied habitat,

26. Before and during construction, areas for avoidance should be visually identifiable in the field, e.g., flagging, temporary fencing, rebar, etc.,

27. Place produced oil, water, or condensate tanks in centralized locations, away from occupied habitat, and

28. Minimize the disturbed area of producing well locations through interim and final reclamation. Reclaim well pads following drilling to the smallest area possible.

29. Occupied Siler pincushion cactus habitats within 300' of the edge of the surface pipelines' right-of-ways, 300' of the edge of the roads' right-of-ways, and 300' from the edge of the well pad shall be monitored for a period of three years after ground disturbing activities. Monitoring will include annual plant surveys to determine plant and habitat impacts relative to project facilities. Annual reports shall be provided to the BLM and the Service. To ensure desired results are being achieved, minimization measures will be evaluated and may be changed after a thorough review of the monitoring results and annual reports during annual meetings between the BLM and the Service.

30. Reinitiation of section 7 consultation with the Service will be sought immediately if any loss of plants or occupied habitat for the Siler pincushion cactus is anticipated as a result of project activities. Additional site-specific measures may also be employed to avoid or

minimize effects to the species. These additional measures will be developed and implemented in consultation.

1.2 Conservation Measures from the Biological Opinion for the Utah BLM Fire Management Plan Amendment BA

The existing land use plans (LUP) that constitute Alternative A (No Action Alternative) were amended September 26, 2005, with the *Finding of No Significant Impact and Decision Record (UT-USO-04-01) Utah Land Use Plan Amendment for Fire and Fuels Management.* The decisions from that document have been brought forward in their entirety.

Applicable Fire Management Practices:		
SUP: Wildfire Suppression WFU: Wildland Fire Use for Resource Benefit	RX: Prescribed Fire NF: Non-Fire Fuel Treatments	ESR: Emergency Stabilization and Rehabilitation
Air		
A-1 Evaluate weather conditions, including wind speed and atmospheric stability, to predict impacts from smoke from prescribed fires and wildland fire use. Coordinate with Utah Department of Environmental Quality for prescribed fires and wildland fire use. (RX, WFU)		
A-2 When using chemical fuels reduction methods, follow all label requirements for herbicide application. (NF)		
Soil and Water		
SW-1 Avoid heavy equipment use on highly erosive soils (soils with low soil loss tolerance), wet or boggy soils, and slopes greater than 30 percent, unless otherwise analyzed and allowed under appropriate National Environmental Policy Act (NEPA) evaluation with implementation of additional erosion control and other soil protection mitigation measures. (SUP, WFU, RX, NF, ESR)		
SW-2 There may be situations where high-intensity fire will occur on sensitive and erosive soil types during wildland fire, wildland fire use, or prescribed fire. If significant areas of soil show evidence of high-severity fire, evaluate the area for soil erosion potential and downstream values at risk and implement appropriate or necessary soil stabilization actions such as mulching or seeding to avoid excessive wind and water erosion. (SUP, WFU, RX)		
SW-3 Complete necessary rehabilitation on firelines or other areas of direct soil disturbance, including but not limited to waterbarring firelines, covering and mulching firelines with slash, tilling and/or subsoiling compacted areas, scarification of vehicle tracks, off-highway vehicles (OHV) closures, and seeding and/or mulching for erosion protection. (SUP, WFU, RX)		
SW-4 When using mechanical fuels reduction treatments, limit tractor and heavy equipment use to periods of low soil moisture to reduce the risk of soil compaction. If this is not practical, evaluate sites post-treatment and, if necessary, implement appropriate remediation, such as subsoiling, as part of the operation. (NF)		
SW-5 Treatments such as chaining, plowing, and roller chopping shall be conducted as much as practical on the contour to reduce soil erosion (Bureau of Land Management [BLM] Record of Decision [ROD] 13 Western States Vegetation Treatment EIS 1991). (NF, ESR)		
SW-6 When using chemical fuel reduction treatments follow all label directions, additional mitigations identified in project NEPA evaluation, and the Approved Pesticide Use Proposal. At a minimum, provide a 100-foot-wide riparian buffer strip for aerial application, 25 feet for vehicle application, and 10 feet for hand application. Any deviations must be in accordance with the label. Herbicides would be applied to individual plants within 10 feet of water where application is critical (BLM ROD 13 Western States Vegetation Treatment EIS 1991). (NF)		
SW-7 Avoid heavy equipment in riparian or wetland areas. During fire suppression or wildland fire use, consult a resource advisor before using heavy equipment in riparian or wetland areas. (SUP, WFU, RX, NF, ESR)		
SW-8 Limit ignition within native riparian or wetland areas. Allow low-intensity fire to burn into riparian areas. (RX)		
SW-9 Suppress wildfires consistently with compliance strategies for restoring or maintaining the restoration of water quality impaired (303(d) listed) water bodies. Do not use retardant within 300 feet of water bodies. (SUP, WFU)		
SW-10 Plan and implement projects consistent with compliance strategies for restoring or maintaining the restoration of water quality impaired (303(d) listed) water bodies. Planned activities shall take into account the potential impacts on water quality, including increased water yields that can threaten fisheries and aquatic habitat; improvements at channel crossings; channel stability; and downstream values. Of special concern are small headwaters of moderate to steep watersheds, erosive or saline soils, multiple channel crossings, at-risk fisheries, and downstream residents. (RX, NF, ESR)		
Vegetation		
V-1 When restoring or rehabilitating disturbed rangelands, non-intrusive, non-native plant species are appropriate for use when native species: (1) are not available; (2) are not economically feasible; (3) cannot achieve ecological objectives as well as non-native species; and/or (4) cannot compete with already established native species (Noxious Weeds Executive Order 13112 2/3/1999; BLM Manual 9015; BLM ROD 13 Western States Vegetation Treatment EIS 1991). (RX, NF, ESR)		
V-2 In areas known to have weed infestations, aggressive action will be taken in rehabilitating firelines, seeding and follow-up monitoring, and treatment to reduce the spread of noxious weeds. Monitor burned areas and treat as necessary. All seed used will be tested for purity and for noxious weeds. Seed with noxious weeds will be rejected (ROD 13 Western States Vegetation Treatment EIS 1991). (SUP, WFU, RX, NF, ESR)		

Applicable Fire Management Practices:		
SUP: Wildfire Suppression WFU: Wildland Fire Use for Resource Benefit	RX: Prescribed Fire NF: Non-Fire Fuel Treatments	ESR: Emergency Stabilization and Rehabilitation
Special Status Species		
SSS-1 Initiate emergency Section 7 consultation with United States Fish and Wildlife Service (USFWS) upon the determination that wildfire suppression may pose a potential threat to any listed threatened or endangered species or adverse modification of designated critical habitat. (SUP)		
SSS-3 Prior to planned fire management actions, survey for listed threatened and endangered and non-listed sensitive species. Initiate Section 7 consultation with USFWS as necessary if proposed project may affect any listed species. Review appropriate management, conservation, and recovery plans and include recovery plan direction into project proposals. For non-listed special status plant and animal species, follow the direction contained in the BLM 6840 Manual. Ensure that any proposed project conserves non-listed sensitive species and their habitats and ensure that any action authorized, funded, or carried out by the BLM does not contribute to the need for any species to become listed. (RX, NF, ESR)		
SSS-4 Follow terms and conditions identified in the Biological Opinion (see section below). (SUP, WFU, RX, NF, ESR)		
Fish and Wildlife		
FW-1 Avoid treatments during nesting, fawning, spawning, or other critical periods for wildlife or fish. (RX, NF, ESR)		
FW-2 Avoid if possible or limit the size of wildland fires in important wildlife habitats such as mule deer winter range and riparian and occupied Greater sage-grouse habitat. Use resource advisors to help prioritize resources and develop Wildland Fire Situation Analyses and Wildland Fire Implementation Plans when important habitats may be impacted. (SUP, WFU)		
FW-3 Minimize wildfire size and frequency in sagebrush communities where sage-grouse habitat objectives will not be met if a fire occurs. Prioritize wildfire suppression in sagebrush habitat with an understory of invasive, annual species. Retain unburned islands and patches of sagebrush unless there are compelling safety, private property, and resource protection or control objectives at risk. Minimize burnout operations (to minimize burned acres) in occupied sage-grouse habitats when there are no threats to human life and/or important resources. (SUP)		
FW-4 Establish fuel treatment projects at strategic locations to minimize size of wildfires and to limit further loss of sagebrush. Fuel treatments may include greenstripping to help reduce the spread of wildfires into sagebrush communities. (RX, NF)		
FW-5 Use wildland fire to meet wildlife objectives. Evaluate impacts on sage-grouse habitat in areas where wildland fire use for resource benefit may be implemented. (WFU, RX)		
FW-6 Create small openings in continuous or dense sagebrush (more than 30 percent canopy cover) to create a mosaic of multiple-age classes and associated understory diversity across the landscape to benefit sagebrush-dependent species. (WFU, RX, NF)		
FW-7 On sites that are currently occupied by forests or woodlands, but historically supported sagebrush communities, implement treatments (fire, cutting, chaining, seeding, etc.) to reestablish sagebrush communities. (RX, NF)		
FW-8 Evaluate and monitor burned areas and continue management restrictions until the recovering and/or seeded plant community reflect the desired condition. (SUP, WFU, RX, ESR)		
FW-9 Use the ESR program to apply appropriate post-fire treatments within crucial wildlife habitats, including sage-grouse habitats. Minimize seeding with non-native species that may create a continuous perennial grass cover and restrict establishment of native vegetation. Seed mixtures shall be designed to reestablish important seasonal habitat components for sage-grouse. Leks shall not be reseeded with plants that change the vegetation height previously found on the lek. Forbs shall be stressed in early and late brood-rearing habitats. In situations of limited funds for ESR actions, prioritize rehabilitation of sage-grouse habitats. (ESR)		
Cultural Resources		
CR-1 Cultural resource advisors shall be contacted when fires occur in areas containing sensitive cultural resources. (SUP)		
CR-2 Wildland fire use is discouraged in areas containing sensitive cultural resources. A programmatic agreement is being prepared to cover the finding of adverse effects on cultural resources associated with wildland fire use. (WFU)		
CR-3 Potential impacts of proposed treatment shall be evaluated for compliance with the National Historic Preservation Act (NHPA) and the Utah Statewide Protocol. This shall be conducted prior to the proposed treatment. (RX, NF, ESR)		

Applicable Fire Management Practices:		
SUP: Wildfire Suppression WFU: Wildland Fire Use for Resource Benefit	RX: Prescribed Fire NF: Non-Fire Fuel Treatments	ESR: Emergency Stabilization and Rehabilitation
Paleontology		
P-1 Planned projects shall be consistent with BLM Manual and Handbook H-8270-1, Chapter III (A) and III (B), to avoid areas where significant fossils are known or predicted to occur or to provide for other mitigation of possible adverse effects. (RX, NF, ESR)		
P-2 In the event that paleontological resources are discovered in the course of surface fire management activities, including fires suppression, efforts shall be made to protect these resources. (SUP, WFU, RX, NF, ESR)		
Forestry		
F-1 Planned projects shall be consistent with Healthy Forest Restoration Act Section 102(e)(2) to maintain or contribute to the restoration of old-growth stands to a pre-fire-suppression condition and to retain large trees contributing to old-growth structure. (SUP, WFU, RX, NF)		
F-2 During planning, evaluate opportunities to use forest and woodland products prior to implementing prescribed fire activities. Include opportunities to use forest and woodland product sales to accomplish non-fire fuel treatments. In forest and woodland stands, consider developing silvicultural prescriptions concurrently with fuel treatment prescriptions. (RX, NF)		
Livestock Grazing		
LG-1 Coordinate with permittees regarding the requirements for non-use or rest of treated areas. (SUP, WFU, RX, NF, ESR)		
LG-2 Rangelands that have been burned by wildfire, prescribed fire, or wildland fire use will be ungrazed for a minimum of one complete growing season following the burn. (SUP, WFU, RX)		
LG-3 Rangelands that have been reseeded or otherwise treated to alter vegetative composition, chemically or mechanically, will be ungrazed for a minimum of two complete growing seasons. (RX, NF, ESR)		
Recreation and Visitor Services		
Rec-1 Wildland fire suppression efforts will preferentially protect Special Recreation Management Areas and recreation site infrastructure in line with fire management goals and objectives. (SUP)		
Rec-2 Vehicle tracks created off established routes will be obliterated after fire management actions in order to reduce unauthorized OHV travel. (SUP, WFU, RX, NF, ESR)		
Lands and Realty		
LR-1 Fire management practices will be designed to avoid or otherwise ensure the protection of authorized rights-of-way (ROW) and other facilities located on the public lands, including coordination with holders of major ROW systems within ROW corridors and communication sites. (WFU, RX, NF, ESR)		
LR-2 Fire management actions must not destroy, deface, change, or remove to another place any monument or witness tree of the Public Land Survey System. (SUP, WFU, RX, NF, ESR)		
Hazardous Waste		
HW-1 Recognize hazardous wastes and move fire personnel to a safe distance from dumped chemicals, unexploded ordnance, drug labs, wire burn sites, or any other hazardous wastes. Immediately notify the BLM Field Office HAZMAT coordinator or state HAZMAT coordinator upon discovery of any hazardous materials, following the BLM hazardous materials contingency plan. (SUP, WFU, RX, NF, ESR)		
Mineral Resources		
M-1 A safety buffer shall be maintained between fire management activities and at-risk facilities. (SUP, WFU, RX)		
Wilderness and Wilderness Study Areas		
Wild-1 The use of earth-moving equipment must be authorized by the Field Office manager. (SUP, WFU, RX, ESR)		
Wild-2 Fire management actions will rely on the most effective methods of suppression that are least damaging to wilderness values, other resources, and the environment, while requiring the least expenditure of public funds. (SUP, WFU)		
Wild-3 A resource advisor shall be consulted when fire occurs in Wilderness Areas and Wilderness Study Areas (WSA). (SUP, WFU)		

U. S. Fish and Wildlife Service Incidental Take Statement, Including Reasonable and Prudent Measures, Terms and Conditions, and Reporting Requirements for ESA Species of the Biological Opinion

Section 9 of the ESA, as amended, prohibits take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 CFR 173). "Harass" is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include but are not limited to breeding, feeding, or sheltering (50 CFR 17.3).

No exemption from Section 9 of the Act is granted in this biological opinion. The Bureau of Land Management's (BLM) implementation of the Land Use Plan Amendment and Five Fire Management Plans is likely to adversely affect listed species. The likelihood of incidental take, and the identification of reasonable and prudent measures (RPM) and terms and conditions to minimize such take, will be addressed in project-level and possibly programmatic-level consultations. Any incidental take and measures to reduce such take cannot be effectively identified at the level of proposed action because of the uncertainty of wildland fire, broad geographic scope, and the lack of site-specific information. Rather, incidental take and RPMs may be identified adequately through subsequent actions subject to Section 7 consultations at the project and/or programmatic scale.

Even though actual take levels are unquantifiable, take will occur through harm and harassment. Therefore, we are providing the following RPMs and terms and conditions to minimize overall take. Implementation of these RPMs and terms and conditions during project planning will also expedite site-specific Section 7 consultation.

Reasonable and Prudent Measures

The USFWS believes that the following RPMs are necessary and appropriate to minimize impacts of incidental take on Utah prairie dog, Southwestern willow flycatcher, California condor, bald eagle, Mexican spotted owl (MSO), and Siler pincushion cactus:

1. The BLM shall implement measures to minimize mortality or injury of federally listed species due to proposed project activities without placing firefighter personnel at risk. The species that were determined likely to be adversely affected by project activities included Utah prairie dog, Southwestern willow flycatcher, California condor, bald eagle, MSO, and Siler pincushion cactus.

2. The BLM shall implement measures to minimize harm to federally listed species through destruction of their suitable or designated critical habitats without placing firefighter personnel at risk. The species' habitats that were determined likely to be adversely affected by project activities included Utah prairie dog, Southwestern willow flycatcher, California condor, bald eagle, MSO, and Siler pincushion cactus.

Terms and Conditions

To be exempt from the prohibitions of Section 9 of the Act, the BLM must comply with the following terms and conditions, which implement the RPMs described above and outline reporting/monitoring requirements. These terms and conditions are non-discretionary. The following terms and conditions

apply to all species covered under this biological opinion and are to be implemented in addition to the Applicant Committed Measures described in the Proposed Action.

General Terms and Conditions

To implement RPM 1:

1. Before the beginning of each fire season, a threatened and endangered species education program will be presented to all personnel anticipated to be within federally listed species habitats during suppression activities. This program will contain information concerning the biology and distribution of listed species throughout the Fire Management Plan Planning Area, their legal status, fire suppression goals, and restrictions within suitable and critical habitat. Following training, each individual will sign a completion sheet to be placed on file at the local BLM office.

2. All project employees (including fire fighting personnel) shall be informed as to the definition of "take," the potential penalties (up to $200,000 in fines and 1 year in prison) for taking a species listed under the ESA, and the terms and conditions provided in this biological opinion.

3. A qualified resource advisor will be assigned to each wildfire that occurs in or threatens listed species habitat. The resource advisor's role is to help define goals and objectives for fire suppression efforts and to inform the Incident Commander (IC) of any restrictions, but he or she does not get involved in specific suppression tactics. Resource advisors shall oversee fire suppression and suppression rehabilitation activities in order to ensure that protective measures endorsed by the IC are implemented.

4. For pre-planned projects, the authorized officer shall designate an individual as a contact representative who will be responsible for overseeing compliance with the Applicant Committed Measures and terms and conditions contained in this biological opinion, and providing coordination with USFWS. The representative will have the authority to halt activities that may be in violation of these conditions, unless human health and safety or structures are at risk.

5. Project-related personnel shall not be permitted to have pets accompany them to the project site.

6. If available, maps shall be provided to local dispatch centers showing general locations of listed species. Local BLM or Utah Division of Wildlife Resources (UDWR) biologists shall be consulted for specific locations if fires occur within or near the general locations delineated on the map.

7. In occupied habitat, pre- and post-monitoring of federally listed species' responses to the pre-planned treatments will be conducted.

To implement RPM 2:

1. Fingers or patches of unburned vegetation within burned areas shall not be burned out as a fire suppression measure unless required for safety concerns or due to high reburn potential.

2. Emergency stabilization and rehabilitation efforts must focus on areas where there is a potential of non-native species to spread, particularly within suitable habitat for federally listed species.

3. The specific seed mix and areas to be seeded within suitable habitat for federally listed and sensitive species will be determined through coordination and Section 7 consultation with the USFWS.

4. In occupied habitat burned by wildland fire, the recovery of vegetation shall be monitored, including establishment and monitoring of paired plots, inside and outside of the burned area unless the BLM and the USFWS concur that monitoring is not required.

5. Site-specific projects under the Land Use Plan Amendment and Fire Management Plans will maintain, protect, or enhance the primary constituent elements of designated critical habitat in all implementation activities.

6. The effectiveness of suppression activities and threatened and endangered species conservation measures shall be evaluated after a fire in coordination with the USFWS. Procedures shall be revised as needed.

7. In occupied habitat, pre- and post-monitoring of federally listed species' habitat responses to the pre-planned treatments will be conducted.

8. Temporarily close burned areas to off-highway vehicles (OHV) within occupied habitat after a wildland fire event until vegetation and soils recover. Consultation with the USFWS may determine that an area may remain open if there is no threat to the species or habitat.

9. Consult with the USFWS to determine the need to obscure decommissioned trails and roads and illegal OHV trails within occupied habitat after a wildland fire event to prevent the trails and roads from re-opening.

Utah Prairie Dog

The following terms and conditions are in addition to the general terms and conditions listed above and apply to the Utah prairie dog:

To implement RPMs 1 and 2:

1. Wildfires will be suppressed before they reach a prairie dog colony ("prairie dog colony" refers to any occupied Utah prairie dog colony) or after they exit a colony. Active suppression efforts will not occur within a colony unless human health and safety or structures are at risk.

2. Only hand lines will be authorized within colonies.

3. Normally, only water shall be used on fires that occur within prairie dog colonies. If the fire IC decides that the situation requires use of chemical retardants to protect life and property, they may be used. The chemical composition will be supplied to the USFWS during emergency consultation.

4. All vehicles shall stay on existing roads within colonies except as stated in (e). Storage of equipment and materials shall not occur within ¼ mile of colonies. Vehicle maintenance shall not occur within these areas.

5. The resource advisor, biologist, or biological monitor (someone who is either qualified with a biological background or has been trained by the resource advisor) ensures that prairie dogs and their burrows are protected or avoided by walking in front of engines, tracked vehicles, or other firefighting-related vehicles within occupied prairie dog colonies.

6. Vehicles shall not exceed a speed of 10 miles per hour (cross-country) in occupied Utah prairie dog colonies unless a higher speed is determined to be prudent for safety reasons.

7. Within colonies, precautions shall be taken to ensure that contamination of the site by fuels, motor oils, grease, etc. does not occur and that such materials are contained and properly disposed of off site. Inadvertent spills of petroleum-based or other toxic materials shall be cleaned up and removed immediately unless they occur during an emergency event (wildfire suppression). In which case the spill shall be cleaned up as soon as practical after the emergency situation is controlled.

8. Camps associated with fire suppression activities shall be situated outside occupied habitat.

9. If a dead or injured Utah prairie dog is located, initial notification must be made to the USFWS Division of Law Enforcement, Cedar City, Utah at telephone 435-865-0861 or to the Cedar City office of the UDWR at telephone number 435-865-6100. Instruction for proper handling and disposition of such specimens will be issued by the Division of Law Enforcement. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state.

Southwestern Willow Flycatcher

The following terms and conditions are in addition to the general terms and conditions listed above and apply to the Southwestern willow flycatcher:

To implement the RPM 1:

1. Prior to planned project activities, potentially affected habitat will be surveyed according to USFWS protocol (A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol; Technical Report NPS/NAUCPRS/NRTR-97/12).

2. Except where fires are active in occupied habitat, minimize unnecessary low-level helicopter flights during the breeding season (April 1 to September 30). If safety allows, approach bucket dip sites at a 90-degree direction to rivers to minimize flight time over the river corridor and occupied riparian habitats. Locate landing sites for helicopters at least ¼ mile from occupied flycatcher habitat unless human safety or property dictates otherwise.

3. Minimize use of chainsaws or bulldozers to construct firelines through occupied or suitable habitat except where necessary to reduce the overall acreage of occupied habitat or other important habitat areas that would otherwise be burned.

4. Implement activities to reduce hazardous fuels or improve riparian habitats (prescribed burning or vegetation treatments) within occupied or unsurveyed suitable habitat for Southwestern willow flycatchers only during the non-breeding season (October 1 to March 31).

To implement RPM 2:

1. Riparian fuel reduction actions shall be considered as experimental and initially conducted only in unoccupied habitats until the success and ramifications are better understood. Efficacy of these actions as a fire management tool, and effects on bird habitat quality, shall be tested in a scientifically explicit, controlled fashion (Appendix L in USFWS 2002).

2. In occupied or suitable flycatcher habitat, creation of firebreaks might render the habitat unsuitable (Appendix L in USFWS 2002). As long as human safety and property allows, firebreaks shall be conducted in unoccupied sites, outside of proposed critical habitat, or within proposed critical habitat under the following situations:

3. The habitat does not meet the Primary Constituent Elements of the proposed critical habitat as listed in 69 FR 60706-60786, October 12, 2004.

4. The firebreak is a minimal fireline necessary to prevent unacceptable losses of occupied habitat.

5. The firebreak is between fuel concentrations and flycatcher breeding sites to prevent fires from spreading into breeding sites (Appendix L in USFWS 2002).

6. Prescribed fire shall be avoided in occupied habitat and considered only as experimental management techniques if dealing with suitable unoccupied habitat (Appendix L in USFWS 2002).

7. Fires in occupied habitat and adjacent buffer zones shall be rapidly suppressed if safety allows.

California Condor and Bald Eagle

The following terms and conditions are in addition to the general terms and conditions listed above and apply to the California condor and bald eagle:

To implement RPM 1:

1. If California condors or bald eagles are found inhabiting (nesting) within the action area of a pre-planned project, a buffer of 1 mile surrounding the nesting area will be designated as non-treatment zones (Romin and Muck 2002).

2. If California condors are observed within ¼ mile of an open water source, such as an inflatable storage tank or "pumpkin," the water storage tank will be covered when not in use.

Mexican Spotted Owl

The following terms and conditions are in addition to the general terms and conditions listed above and apply to the MSO:

To implement RPM 1:

1. Pre-planned fuels reduction projects within MSO designated critical habitat shall be designed to enhance habitat requirements for the MSO as well as for the valuable prey species they rely upon.

To implement RPM 2:

1. Fire suppression shall be considered for wildfires in designated critical habitat.

Threatened or Endangered Plants

The following terms and conditions are in addition to the general terms and conditions listed above and apply to the federally listed plants:

To implement RPM 1:

1. Do not allow wildland fire use within occupied habitat unless agreed to by the BLM and the USFWS.

2. When feasible (and human life or property are not put at risk) firebreaks shall be constructed down-slope of plants and populations; if firebreaks must be sited up-slope, buffers of 100 feet minimum between surface disturbances and plants and populations will be incorporated.

To implement RPM 2:

1. Do not allow wildland fire use within occupied habitat unless agreed to by the BLM and the USFWS.

2. For pre-planned projects within known or potential habitat, site inventories shall be conducted to determine habitat suitability prior to initiation of project activities at a time when the plant can be detected.

3. For riparian/wetland-associated species, avoid loss or disturbance of riparian habitats.

4. Limit disturbances to and within suitable habitat by staying on designated routes where feasible.

5. Limit new access routes created by the project.

6. Following a wildland fire event, place signing to limit all-terrain vehicle (ATV) travel in sensitive burned areas.

Siler Pincushion Cactus

The following terms and conditions are in addition to the general terms and conditions listed above as well as the terms and conditions for threatened and endangered plant species. These terms and conditions apply specifically to the Siler pincushion cactus:

To implement RPMs 1 and 2:

1. Follow and implement the restrictions on pesticide use within suitable Siler pincushion cactus habitat developed by the Environmental Protection Agency (EPA). These limitations were excerpted from the EPA's Pesticides: Endangered Species Protection Program (http://www.epa.gov/oppfeadl/endanger/arizona/cocon.htm#brady):

2. If the active ingredient is 2,4-D (all forms), ATRAZINE, CLOPYRALID, DICAMBA (all forms), DICHLORPROP (2,4-DP), HEXAZINONE, MCPA (all forms), PARAQUAT, PICLORAM (all forms), or TEBUTHIURON, do not apply this pesticide in the species habitat. For ground applications do not apply within 20 yards of the habitat, or within 100 yards for aerial applications.

3. If the active ingredient is OXYFLUORFEN (granular or non-granular), do not apply this pesticide in the species habitat. For ground applications do not apply within 100 yards of the habitat, or within ¼ mile for aerial applications.

4. If the active ingredient is either METRIBUZIN or SULFOMETURON METHYL, do not apply this pesticide on rights-of-way in the species habitat.

Closing

The USFWS believes that an unquantifiable amount of incidental take will occur in the form of harm and harassment as a result of the proposed actions. The RPMs, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed actions. The BLM must immediately provide an explanation of the causes of the taking and review with the USFWS the need for possible modification of the RPMs.

Reporting Requirements

Upon locating dead, injured, or sick listed species, immediate notification must be made to the USFWS Salt Lake City Field Office at 801-975-3330 and the USFWS Division of Law Enforcement, Ogden, Utah, at 801-625-5570. Pertinent information including the date, time, location, and possible cause of injury or mortality of each species shall be recorded and provided to the USFWS. Instructions for proper care, handling, transport, and disposition of such specimens will be issued by the USFWS Division of Law Enforcement. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state.

The BLM shall submit a report to the USFWS on or before December 1 of each year in which fire management activities occurred within occupied habitat. For the listed and candidate species covered under this consultation, the report shall include (1) the amount of potential and/or occupied habitat affected by wildfire (i.e., stream miles burned, percentage of drainage burned, and fire severity map); (2) to the extent possible, the number of individuals killed from direct and indirect effects of wildfire; (3) any habitat and/or population monitoring efforts from past wildfire events; (4) a copy of the burned area emergency stabilization and rehabilitation plan; (5) implementation and effectiveness monitoring of burned area emergency stabilization and rehabilitation treatments; (6) implementation and effectiveness monitoring of the standard operating procedures (SOP); (7) recommendations for enhancing the effectiveness of the SOPs; and (8) any recommendations for additional SOPs. The first report shall be due to the USFWS on December 1, 2005. The address for the Utah Fish and Wildlife Office is:

Field Supervisor, U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119
Telephone: 801-975-3330

Additional Resource Protection Measures Developed by the BLM and the USFWS

In addition to the resource protection measures listed in the LUP amendment, the following conservation measures were developed through the Section 7 consultation process. These resource protection measures were identified in the USFWS Biological Opinion (page 42). That document states that "the BLM has incorporated these measures ... by reference to their [Biological Assessment]." Species that were addressed in these measures that do not occur within the decision area or are not affected by management in the EIS alternatives are not included. Additional resource protection measures are as follows:

- Manage natural and prescribed fire regimes to protect or improve Utah prairie dog habitat.
- Within Utah prairie dog habitat, reseeding would be implemented according to the Utah Prairie Dog Recovery Plan.
- Manage prescribed fire and wildland fire use within MSO protected activity centers (PAC) to ensure protection of nesting, roosting, and foraging habitats.
- Wildland fire suppression would be prioritized for use in MSO PACs. When feasible, fire camps associated with suppression efforts would be built outside of the PACs and nest protection areas.
- For treatments within suitable habitat for listed species, pre- and post-monitoring would take place as determined on a case-by-case basis.
- Incorporate the standards and guidelines recommended by the Inland Native Fish Strategy (USFS 1995).
- As per the decision of the resource advisor, avoid construction of firelines using mechanized equipment across the stream channel. If used, the mechanized equipment would terminate at and not cross the stream channel.
- Avoid transferring water from one watershed into another for the purpose of water drops because this could aid in the spread of waterborne diseases such as whirling disease.
- Avoid retardant use in any riparian wetland communities.
- Restricted use of mechanical treatments and hand tools.
- Per-burn acreage limitations of 5 to 100 acres, as long as human life or property are not threatened.
- Prior to planned fire management actions, survey for listed threatened and endangered and non-listed sensitive species. Review appropriate management, conservation, and recovery plans and include recovery plan direction into project proposals, if listed. Ensure that any proposed project conserves non-listed sensitive species and their habitats and ensure that any action authorized, funded, or carried out by the BLM does not contribute to the need for any species to become listed.

1.3 Conservation Measures from the Biological Opinion for the Utah BLM Land Use Plans Amendments BA

Mexican Spotted Owl (Strix occidentalis lucida)

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Mexican spotted owl (MSO). This list is not comprehensive. Additional conservation measures or other modified versions of these measures may be applied for any given BLM-authorized

activity upon further analysis, review, coordination efforts, and/or appropriate levels of Section 7 consultation with the USFWS:

1. The BLM will place restrictions on all authorized (permitted) activities that may adversely affect the MSO in identified protected activity centers (PAC), breeding habitat, or designated critical habitat in order to reduce the potential for adverse impacts to the species:

- Restrictions and procedures have been adapted from guidance published in the *Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (Romin & Muck 2002), as well as coordination between the BLM and USFWS. Measures include:
  - Surveys, according to USFWS protocol, will be required prior to any disturbance-related activities that have been identified to have the potential to impact MSO, unless current species occupancy and distribution information is complete and available. All surveys must be conducted by USFWS-certified individuals and approved by the BLM authorized officer:
    - ◊ Assess habitat suitability for nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the appropriate conservation measures below if project activities occur within ½ mile of suitable owl habitat, dependent in part on whether the action is temporary[1] or permanent[2]:
      - For all temporary actions that may impact owls or suitable habitat:
        - o If action occurs entirely outside of the owl breeding season and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.
        - o If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity should be delayed until outside of the breeding season.
        - o Eliminate access routes created by a project through such means as raking out scars, revegetation, and gating access points.
      - For all permanent actions that may impact owls or suitable habitat:
        - o Survey two consecutive years for owls according to established protocol prior to commencing activity.
          a. If owls are found, no actions will occur within ½ mile of identified nest site. If nest site is unknown, no activity will occur within the designated PACs.
          b. Avoid placing permanent structures within ½ mile of suitable habitat unless surveyed and not occupied.
          c. Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at ½ mile from suitable habitat, including canyon rims (Delaney et al. 1997). Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a ½-mile buffer for suitable habitat, including canyon rims.
          d. Limit disturbances to and within suitable owl habitat by staying on designated routes.
          e. Limit new access routes created by the project.

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[1] *Temporary activities are defined as those that are completed prior to the start of the following raptor breeding season, leaving no permanent structures, and resulting in no permanent habitat loss.*

[2] *Permanent activities continue for more than one breeding season and/or cause a loss of owl habitat or displace owls through disturbances (e.g., creation of a permanent structure including but not limited to well pads, roads, pipelines, and electrical powerlines).*

2. The BLM will, as a condition of approval (COA) on any project proposed within identified PACs and designated critical habitat or within spatial buffers for MSO nests (½ mile), ensure that project proponents are notified as to their responsibilities for rehabilitation of temporary access routes and other temporary surface disturbances created by their project according to individual BLM field office standards and procedures or those determined in the project-specific Section 7 consultation.

3. The BLM will require monitoring of activities in designated critical habitat, identified PACs, or breeding habitats wherein it has been determined that there is a potential for take. If any adverse impacts are observed to occur in a manner or to an extent that was not considered in the project-specific Section 7 consultation, then consultation must be reinitiated:

- Monitoring results should document what, if any, impacts on individuals or habitat occur during project construction/implementation. In addition, monitoring should document successes or failures of any impact minimization or mitigation measures. Monitoring results would be considered an opportunity for adaptive management, and as such would be carried forward in the design and implementation of future projects.

4. For all survey and monitoring actions:

- Provide reports to the affected field offices within 15 days of completion of survey or monitoring efforts.
- Report any detection of MSO during survey or monitoring activities to the authorized officer within 48 hours.

5. The BLM will, in areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remain intact during implementation of any BLM-authorized activity.

6. For all BLM actions that "may adversely affect" the primary constituent elements in any suitable MSO habitat, the BLM will implement measures as appropriate to minimize habitat loss or fragmentation, including rehabilitation of access routes created by the project through such means as raking out scars, revegetation, and gating access points.

7. Where technically and economically feasible, use directional drilling from single drilling pads to reduce surface disturbance, and minimize or eliminate need to drill in canyon habitats suitable for MSO nesting.

8. Prior to surface disturbing activities in MSO PACs, breeding habitats, or designated critical habitat, specific principles should be considered to control erosion. These principles include:

- Conduct long-range transportation planning for large areas to ensure that roads will serve future needs. This will result in less total surface disturbance.
- Avoid surface disturbance in areas with high erosion hazards to the extent possible. Avoid mid-slope locations, headwalls at the source of tributary drainages, inner valley gorges, and excessively wet slopes such as those near springs. In addition, areas where large cuts and fills would be required should be avoided.
- Locate roads to minimize roadway drainage areas and to avoid modifying the natural drainage areas of small streams.

9. Project developments should be designed and located to avoid direct or indirect loss or modification of MSO nesting and/or identified roosting habitats.

10. Water production associated with BLM-authorized actions should be managed to ensure maintenance or enhancement of riparian habitats.

Utah Prairie Dog (*Cynomys parvidens*)

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Utah prairie dog. This list is not comprehensive. Additional conservation measures or other modified versions of these measures may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of Section 7 consultation with the USFWS:

1. Surveys according to approved protocols and procedures will be required prior to surface disturbance unless species occupancy and distribution information is complete, current, and available. Surveys would be conducted by BLM-approved biologists. In the event species occurrence is verified, the project proponent may be required to modify operational plans, at the discretion of the authorized officer, to include additional, appropriate protection measures or practices for the minimization of impacts on the Utah prairie dog and its habitat.

2. The BLM will restrict surface disturbing activities within ½ mile of active Utah prairie dog colonies when and where necessary, upon the recommendation of BLM Field Office (FO) staff biologists to BLM management and as necessary in coordination or consultation with USFWS.

3. No permanent surface disturbance or facility will be allowed within ½ mile of potentially suitable Utah prairie dog habitat, as identified and mapped by the BLM or UDWR since 1976.

4. Unavoidable surface disturbing activities in Utah prairie dog habitat should be conducted between April 1 and September 30 (the period when prairie dogs are most likely to be found above ground). BLM projects will be designed to avoid direct disturbance to Utah prairie dog populations and habitat wherever possible. Designs should consider flow of water, slope, buffers, possible fencing, and pre-activity flagging of critical areas for avoidance.

5. Reclamation and restoration efforts in Utah prairie dog habitat will be conducted using native seed unless otherwise specified in coordination with USFWS.

6. As funding allows, the BLM should complete a comprehensive assessment locating and mapping off-highway vehicle (OHV) use areas that interface with Utah prairie dog populations. Comparison of geographic information system (GIS) layers for Utah prairie dog populations and OHV use should give BLM personnel another tool to manage and/or minimize impacts from OHV use near known Utah prairie dog populations and habitat. Based on the information that is developed via GIS applications, appropriate actions should be taken to prevent OHV use in occupied territories.

7. The BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.

8. Where technically and economically feasible, the use of directional drilling or drilling of multiple wells from a single pad will be required to reduce surface disturbance in Utah prairie dog habitat.

9. For existing facilities, BLM and facility operators will consider if fencing infrastructure on well pads (e.g., drill pads, tank batteries, and compressors) would be needed to protect equipment from burrowing activities. In addition, BLM and project proponents should consider if future surface disturbing activities would be required at the site.

10. The BLM will provide educational information for project proponents and the general public pertaining to appropriate vehicle speeds and the associated benefit of reduced vehicle collisions with wildlife, and to improve general ecological awareness of habitat disturbance.

11. Project-related vehicle maintenance activities will be conducted in maintenance facilities. Should it become necessary to perform vehicle or equipment maintenance on site, these activities will not be conducted on identified Utah prairie dog colonies or within a 350-foot distance from colonies. Precautions shall be taken to ensure that contamination of maintenance sites by fuels, motor oils, grease, etc. does not occur and such materials are contained and properly disposed of off site. Inadvertent spills of petroleum-based or other toxic materials shall be cleaned up and removed immediately.

12. The BLM will coordinate with interested private and governmental agencies and landowners to identify voluntary opportunities to modify current land stewardship practices that may have detrimental impacts on the Utah prairie dog and its habitat.

13. BLM-authorized equipment and vehicles planned for use within Utah prairie dog habitat will be cleaned to minimize the spread of noxious weeds or other undesirable vegetation types.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

The following list of measures provides species-specific guidance intended to avoid, minimize, or reduce potential adverse impacts from implementation of BLM actions under the authority of current Utah BLM LUPs on the Southwestern willow flycatcher. This list is not comprehensive. Additional conservation measures or other modified versions of these measures may be applied for any given BLM-authorized activity upon further analysis, review, coordination efforts, and/or appropriate levels of Section 7 consultation with the USFWS:

1. Surveys will be required prior to operations that "may adversely affect" Southwestern willow flycatcher unless species occupancy data and distribution information is complete and available. Surveys will be conducted only by BLM-approved personnel. In the event species occurrence is verified, project proponents may be required to modify operational plans at the discretion of the authorized officer. Modifications may include appropriate measures for minimization of adverse effects on Southwestern willow flycatcher and habitat.

2. The BLM will monitor and restrict, when and where necessary, authorized or casual use activities that "may adversely affect" Southwestern willow flycatcher, including but not limited to recreation, mining, and oil and gas activities. Monitoring results should be considered in the design and implementation of future projects.

3. To monitor the impacts of BLM-authorized projects determined "likely to adversely affect" Southwestern willow flycatcher, the BLM should prepare a short report describing progress,

including success of implementation of all associated mitigation. Reports shall be submitted annually to the USFWS Utah Field Office by March 1 beginning 1 full year from date of implementation of the proposed action. The report shall list and describe the following items:

- Any unforeseen adverse effects resulting from activities of each site-specific project (may also require reinitiation of formal consultation)
- If and when any level of anticipated incidental take is approached (as allowed by separate Incidental Take Statements of site-specific Formal Section 7 consultation efforts)
- If and when the level of anticipated take (as allowed by separate Incidental Take Statements from site-specific formal consultations) is exceeded
- Results of annual, periodic monitoring that evaluates the effectiveness of the reasonable and prudent measures or terms and conditions of the site-specific consultation.

4. The BLM should avoid granting activity permits or authorizing development actions in Southwestern willow flycatcher habitat. Unoccupied potential habitat should be protected in order to preserve them for future management actions associated with the recovery of the Southwestern willow flycatcher.

5. The BLM will ensure that the project design incorporates measures to avoid direct disturbance to populations and suitable habitats where possible. At a minimum, project designs should include consideration of water flows, slope, seasonal and spatial buffers, possible fencing, and pre-activity flagging of critical areas for avoidance.

6. The BLM will continue to address illegal and unauthorized OHV use and activity upon BLM-administered lands. To protect, conserve, and recover the Southwestern willow flycatcher in areas of heavy unauthorized use, temporary closures or use restrictions beyond those which are already in place may be imposed. As funding allows, the BLM should complete a comprehensive assessment of all OHV use areas that interface with Southwestern willow flycatcher populations. Comparison of Southwestern willow flycatcher populations and OHV use areas using GIS would give BLM personnel another tool to manage and/or minimize impacts.

7. All surface disturbing activities should be restricted within a ¼ mile buffer from suitable riparian habitats, and permanent surface disturbances should be avoided within ½ mile of suitable Southwestern willow flycatcher habitat:

- Unavoidable ground disturbing activities in occupied Southwestern willow flycatcher habitat should be conducted only when preceded by current year survey, should only occur between August 16 and April 30 (the period when Southwestern willow flycatchers are not likely to be breeding), and should be monitored to ensure that adverse impacts on Southwestern willow flycatcher are minimized or avoided and to document the success of project-specific mitigation/protection measures. As monitoring is relatively undefined, project-specific requirements must be identified.

8. The BLM will properly consider nesting periods for Southwestern willow flycatcher when conducting horse-gathering operations in the vicinity of habitat.

9. The BLM will ensure that plans for water extraction and disposal are designed to avoid changes in the hydrologic regime that would be likely to result in loss or undue degradation of riparian habitat.

10. Native species will be preferred over non-native for revegetation of habitat in disturbed areas.

11. The BLM will coordinate with other agencies and private landowners to identify voluntary opportunities to modify current land stewardship practices that may impact the Southwestern willow flycatcher and its habitats.

12. Limit disturbances to within suitable habitat by staying on designated routes.

13. Ground disturbing activities will require monitoring throughout the duration of the project to ensure that adverse impacts on Southwestern willow flycatcher are avoided. Monitoring results should document what if any impacts on individuals or habitat occur during project construction/implementation. In addition, monitoring should document the successes or failures of any impact minimization or mitigation measures. Monitoring results would be considered an opportunity for adaptive management and as such would be carried forward in the design and implementation of future projects.

14. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in Southwestern willow flycatcher habitat.

15. Habitat disturbances (e.g., organized recreational activities requiring special use permits or drilling activities) will be avoided within ¼ mile of suitable Southwestern willow flycatcher habitat from May 1 to August 15.

16. Grazing allotments that contain habitat for the species will be managed with consideration for recommendations provided by the Southwestern Willow Flycatcher Recovery Plan and other applicable research.

1.4 BLM-committed conservation measures common to all BLM actions

- Kanab BLM Field Office would designate individuals to monitor ground disturbing activities conducted in known special status species habitat. The qualified biologist/botanist would monitor activities to ensure that project specific impact minimization measures are set in place.

- Surveys would be required prior to operations that disturb special status species habitat unless species occupancy and distribution information is current and available. Only BLM-approved personnel should conduct such surveys. In the event species occurrence is verified, the proponent may be required to modify operational plans, at the discretion of the authorized officer, to include appropriate measures for minimization of effects to the special status species and its habitats. Appropriate field office managers will determine the necessary minimization measures for non-listed species.

- BLM shall continue to document new populations of these species as they are encountered.

- BLM will consider emergency OHV closure or additional restrictions to protect, conserve, and recover the species.

- To avoid collisions and electrocution of raptors and other avifauna, any power line construction would follow recommendations by the Avian Power Line Interaction Committee (APLIC) (1994, 1996). Power lines would be placed underground and/or in locations necessary to avoid impacts to T&E and special status species on a case-by-case basis (2005, APLIC and APP).

- Construction activities located within potential and/or known habitat for T&E and Special Status Species would be minimized through construction site management by preferentially utilizing previously disturbed areas, using existing ROWs, and designating limited equipment/materials storage yards and staging areas to benefit habitat for T&E and Special Status Species.

- BLM shall initiate and conduct the appropriate level of Section 7 consultation and/or coordination with the USFWS. Formal Section 7 Consultation would be required for any planned or authorized activity which is determined to likely result in adverse impacts on any federally listed species or its designated critical habitat.

- BLM will monitor and restrict, all authorized or permitted activities that may adversely impact listed species or their designated critical habitats. Monitoring results should be considered in the design and implementation of future projects.

- BLM will avoid surface disturbing treatment during nesting, and other crucial periods for special status species.

- BLM will monitor the impacts of site-specific implementations or projects authorized under the Proposed RMP that are determined "likely to adversely affect" listed species. Monitoring efforts would include:

  - Documentation of any unforeseen adverse effects resulting from activities of site-specific projects (may also require reinitiating of formal Consultation)
  - Results of periodic monitoring which evaluate the effectiveness of the reasonable and prudent measures or terms and conditions of the site-specific consultation.

In addition to the conservation measures and lease notices noted above, documents such as species-specific recovery plans and conservation strategies/agreements/plans include management plans and strategies to protect special status species. These documents are developed using the most current science, but as monitoring and current scientific findings provide further information, they are subject to revision, amendment, or updates. As such, the list of documents applicable for the decision area could be increased or decreased based on species listing, condition, distribution, and so forth. Documents for federally listed species within the decision area include, but are not limited to, the following:

- Mexican Spotted Owl Recovery Plan, 1995
- Utah Prairie Dog Recovery Plan, 1991
- Utah Prairie Dog Interim Conservation Strategy, 1997
- Welsh's Milkweed Recovery Plan, 1992
- Siler Pincushion Cactus Recovery Plan, 1986
- Autumn Buttercup Recovery Plan, 1991
- Conservation Agreement and Strategy for the Coral Pink Sand Dunes Tiger Beetle, 1997
- Range-Wide Conservation Agreement for Roundtail Chub, Bluehead Sucker, and Flannelmouth Sucker, 2004
- Recovery Plan for the California Condor, 1996
- Final Recovery Plan for the Southwestern Willow Flycatcher, 2002
- Interim Conservation Plan for Ambersnails of the Southwestern United States (DRAFT), Year Unknown.

1.5 Additional Resource Protection Measures

Critical habitat

Currently, no designated critical habitat has been identified for the Utah prairie dog, California condor, southwestern willow flycatcher, or Siler pincushion cactus within the Kanab planning area. If critical habitat is proposed and designated under section 4 of the ESA (CFR 50 402.02), these areas would be protected from future surface disturbing activities that would adversely modify or destroy the designated critical habitat. Currently critical habitat has been designated for the Mexican spotted owl and the Welsh's milkweed.

Lands and Realty Management

Areas considered for disposal that contain suitable habitat for special status species shall be surveyed for populations of the species prior to disposal. Lands should not be disposed of unless it is determined that the action would pose no threat to the conservation of special status species populations and habitat.

Livestock Grazing Management

The Bureau of Land Management would encourage the avoidance of suitable habitats and known populations of all special status species during herding, trailing, salting, and watering of livestock.

BLM will encourage the avoidance of key habitats during livestock herding and trailing activities on BLM administered lands. (Key habitats are those that are deemed necessary for the conservation of the species including, but not necessarily limited to, designated critical habitat and other occupied or unoccupied habitats considered important for the species survival and recovery ad determined in coordination with USFWS).

Each grazing allotment containing listed species should have at least one monitoring plot per listed species to collect population demographic and trend data.

Cultural and Paleontological Resource Management

Environmental assessments should continue to be required before excavation permits are issued. The environmental assessments should include the presence or absence of threatened, endangered, or special status species and their suitable habitats.

Vegetation Management

Riparian habitats will be maintained, improved, or restored to provide wildlife habitat, improve water quality, and enhance forage conditions. When planting or seeding vegetation in areas identified as T&E or Special Status Species habitat, only native species would be selected.

Water production will be managed to ensure maintenance or enhancement of riparian habitat.

Fish Wildlife Resource Management

The BLM will continue to conduct project specific site inventories in areas that are proposed for all management developments that occur in suitable habitat for special status species

2.0 BEST MANAGEMENT PRACTICES

Best Management Practices (BMP's) are specific measures and practices which are considered at the project-specific level, on a case by case basis. BMP's should be implemented wherever possible, to reduce possible adverse affects, advance the protection, conservation, and recovery of special status species. Best Management practices will allow flexibility for resource managers to implement protective measures for special status species.

2.1 Best Management Practices

Surface Disturbing Activities

- Areas subject to surface disturbance should be evaluated for the presence of cultural resources or values. This is usually accomplished through the completion of a cultural clearance. An on-the-ground inspection by a qualified archaeologist, historian, or paleontologist is required. In cases where cultural resources are found, the preferred response would be to modify the proposed action to avoid the cultural resource (avoidance). If avoidance is not possible, actions would be taken to preserve the data or value represented by the cultural resource (mitigation).
- Areas subject to surface disturbance would be evaluated for the presence of threatened, endangered, or candidate animal or plant species. This is usually accomplished through the completion of a biological clearance. An on-the-ground inspection by a qualified biologist is required. In cases where threatened, endangered, or candidate species are affected, the preferred response would be to modify the proposed action to avoid the species or its habitat (avoidance). If avoidance of a threatened, endangered, or candidate species or its habitat is not possible, a Section 7 consultation with USFWS would be required and a biological assessment would be prepared to recommend actions to protect the species or its habitat.
- Special design and reclamation measures may be required to protect scenic and natural landscape values. These measures may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, using low-profile permanent facilities, and painting to minimize visual contrasts. Surface disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the activities.
- Above-ground facilities requiring painting should be designed to blend in with the surrounding environment.
- Reclamation should be implemented concurrently with construction and site operations to the extent possible. Final reclamation actions should be initiated within 6 months of the termination of operations unless otherwise approved in writing by the authorized officer.
- Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.
- Design pipeline crossings through riparian areas and across stream channels to minimize impacts to these resources.

Mineral Exploration and Development

- Surface restrictions should be placed in and around known populations of special status species.

- Reduce impacts on wildlife and visual resources by applying the following, as appropriate:
  - Directional drilling of oil and gas wells
  - Drilling of multiple wells from a single pad
  - Closed drilling systems
  - Cluster development

  - Below-ground wellheads
  - Remote well monitoring
  - Piping of produced liquids to centralized tank batteries off site to reduce traffic to individual wells
  - Transportation planning (e.g., to reduce road density and traffic volumes)
  - Compensation mitigation
  - Noise reduction techniques and designs
  - Installation of raptor anti-perch devices in Greater sage-grouse habitat
  - Monitoring of wildlife populations during drilling operations
  - Avoidance of human activity between 8 p.m. and 8 a.m. from March 1 through May 15 within ¼ mile of the perimeter of occupied Greater sage-grouse leks
  - Onsite bioremediation of oil field waste and spills
  - Removal of trash, junk, waste, and other materials not in current use.
- Reclaim all disturbed surface areas promptly, performing concurrent reclamation as necessary, and minimize the total amount of surface disturbance.
- Strip all surface soil prior to conducting operations, stockpiling, and reapplying during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the depth or thickness of stockpiles.
- Strip and separate soil surface horizons where feasible and reapply in proper sequence during reclamation.
- Establish vegetation cover on soil stockpiles that are to be in place longer than 1 year.
- Construct and rehabilitate temporary roads, consistent with intended use, to minimize total surface disturbance.
- Consider temporary measures such as silt fences, straw bales, and mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.
- Bury distribution powerlines and/or flow lines in or adjacent to access roads.
- Perform interim reclamation of well locations and access roads after wells are put into production.
- Reshape all areas to be permanently reclaimed to the approximate original contour, providing for proper surface drainage.

Road Design and Maintenance

- Keep access roads to a minimum, using them only when necessary.
- Design roads to minimize total disturbance, to conform to topography, and to minimize disruption of natural drainage patterns.
- Design and maintenance of roads will conform to the BLM Manual and American Association of State Highway and Transportation Officials standards where applicable.
- Locate roads on stable terrain (such as ridgetops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes) and away from slumps, slide-prone areas, concave slopes, clay beds, and where rock layers are parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.
- Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars, and/or insloping to ditches as appropriate. Maintain drain dips, waterbars, road crowns, insloping, and outsloping, as appropriate, during road maintenance. Grade roads only as necessary.
- Slope the road base to the outside edge for surface drainage for local spurs or minor collector roads where low-volume traffic and lower traffic speeds are anticipated. This also is recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Outsloping is not recommended on steep slopes. Sloping the road

base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.

- Construct arterial and collector roads with crown and ditching where traffic volume, speed, and intensity and user comfort are considerations. Recommended gradients range from 0 percent to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
- Construct roads when soils are dry and not frozen, if possible, in soil types with a low sand component. When these types of soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or cease unless otherwise approved by the authorized officer.
- Retain vegetation between roads and streams to filter runoff caused by roads.
- Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
- Strip and stockpile topsoil ahead of construction of new roads if feasible. Reapply soil to cuts and fillslopes prior to revegetation.
- Use existing roads whenever possible instead of constructing new roads.

Rights-of-Way and Utility Corridors

- Rights-of-way (ROW) and utility corridors should use areas adjoining or adjacent to previously disturbed areas whenever possible.
- Disturbed areas within road ROWs and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion. Vegetation cover should be reestablished to increase infiltration and provide additional protection from erosion.
- Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms also may be employed for the removal of sediment from runoff.
- Road construction, maintenance and right-of-way corridors shall be restricted in known populations of special status species.

Noxious Weed Management

- To reduce the potential for the introduction of noxious weeds, all equipment should be cleaned off, by pressure washing, prior to operating on BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required.
- All seed, hay, straw, mulch, and other vegetation material transported and used on public land weed-free zones for site stability, rehabilitation, or project facilitation should be certified by a qualified federal, state, or county officer as free of noxious weeds and noxious weed seed.

Reducing Impacts on Visual Resource Management Class II and Class III Areas

- Bury distribution powerlines and flow lines in or adjacent to access roads.
- Repeat form, line, color, and texture elements to blend facilities with the surrounding landscape.
- Paint all above-ground structures not requiring safety coloration an environmental color that is two shades darker than the surrounding environment.
- Perform final reclamation recontouring of all disturbed areas, including access roads, to the original contour or a contour that blends with the surrounding topography.
- Avoid facility placement on steep slopes, ridgetops, and hilltops.
- Reclaim unused well pads within 1 year.

Developed Recreation Sites

- Construct recreation sites and provide appropriate sanitation facilities to minimize impacts on resource values and public health and safety and to minimize user conflicts of approved activities and access within an area as appropriate.
- Use public education and/or physical barriers (such as rocks, posts, and vegetation) to direct or preclude uses and to minimize impacts on resource values.
- OHV use should be designated as limited to existing roads and trails where known special status species populations exist.

Riparian/Wetland Areas

- Avoid locating roads, trails, and landings in wetlands.
- Locate, identify, and mark riparian management areas during the design of projects that may cause adverse impacts on riparian management areas.
- Keep open water free from slash.
- Avoid equipment operation in areas of open water, seeps, and springs.
- Use low-ground-pressure equipment (floatation tires or tracks) as necessary to minimize rutting and compaction.

Water Developments

- Work in springs and stream beds should be done by hand where possible. If machinery is needed in these areas, select equipment that minimizes disturbance.
- After construction of spring head boxes, troughs, pipelines, and well sites, the areas should be cleaned up and refuse removed.
- Cuts, fills, and excavations should be dressed and seeded to blend with surroundings. Pipelines should be buried where possible.
- Original water sources should be protected, and fenced if required, and an offstream watering supply should be provided near the site.
- The size of storage tanks and troughs should accommodate the expected needs of livestock and wildlife using them.
- Water should be left at the site for wildlife. Wells should be cased to prevent cave-ins, and well sites should be fenced.
- Storage structures should be designed to provide water for wildlife. Drinking ramps should be installed, and their heights should not prohibit young wildlife from obtaining water.

Cultural Resources and Paleontological Resources

- Archeologists can be educated and taught how to identify special status species in order to avoid trampling during excavations and fence construction efforts.

Wildland Fire Ecology Management

- Areas should also be analyzed when a wildfire determination is being made to either let it burn or suppress the fire.

Forestry and Woodlands Products Management

- Individuals obtaining permits for posts, firewood, and Christmas trees would be directed to areas that do not contain known occupied habitat of special status species.

Vegetation Resource Management

- The use of herbicides, chemical treatments, and habitat manipulations should be allowed on a case by case basis to prevent the spread on noxious and invasive weeds in special status species habitat. .
- Seeding and revegetation actions could be considered for adjustment to the habitat and plant community characteristics.

2.2 Best Management Practices Developed by Other Companies/Agencies

BMPs have been developed and used by numerous energy companies and state and federal agencies throughout the nation. Development and sharing of BMPs represents a commitment to the idea that smart planning and responsible follow-through manage and, in some cases, reduce impacts on resources, both now and in the future. BMPs developed by other agencies should be considered in addition to those identified in this document. Some of these other BMPs are contained in the following documents and websites:

- *Utah's Forest Water Quality Guidelines: A Practical User's Guide for Landowners, Loggers, and Resource Managers* (State of Utah, Department of Natural Resources, Division of Forestry, Fire and State Lands). As of November 2006, an electronic version of this document was available at http://extension.usu.edu/forestry/Management/UtFWQGuide/Assets/PDFDocs/UFWQGBOO.pdf .
- *Coalbed Methane Best Management Practices: A Handbook – 2006 Update* (Western Governors' Association). As of November 2006, an electronic version of this document was available at www.westgov.org/wga/initiatives/coalbed.
- *Low-Volume Roads Engineering Best Management Practices Field Guide* (U.S. Forest Service). As of November 2006, an electronic version of this document was available at www.blm.gov/bmp/field%20guide.htm.
- *Water-Road Interaction Technology Series Documents* (U.S. Forest Service). As of November 2006, electronic versions of these documents were available at www.stream.fs.fed.us/water-road.
- *National Menu of Stormwater Best Management Practices* (U.S. Environmental Protection Agency). As of November 2006, electronic versions of these documents were available at http://cfpub.epa.gov/npdes/stormwater/menuofbmps/con_site.cfm.
- *BLM Vegetation Treatments Using Herbicides Final Programmatic Environmental Impact Statement Record of Decision*, September 2007. As of April 2008, an electronic version of this document was available at http://www.blm.gov/wo/st/en/prog/more/veg_eis.html.
- *Technical Information Sheets: Specific and Detailed BMP Guidance* (Bureau of Land Management). As of November 2006, an electronic version of this document was available through hyperlinks located at www.blm.gov/bmp/Technical_Information.htm.
- WO IM 2007-021 Integration of Best Management Practices into Applications for Permit to Drill Approvals and Associated Rights of Way. This document establishes formal BLM policy on the inclusion and use of BMPs with energy development. As of November 2006, an electronic version of this document was available at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices.html.
- *Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development: The Gold Book* (BLM). As of November 2006, an electronic version of this document was available through hyperlinks located at www.blm.gov/bmp/Technical_Information.htm.

RE-INITIATION STATEMENT

This is a program-level document that does not include project specific detail for actions authorized by the Resource Management Plan. Additional consultation with USFWS will be necessary for any authorized project specific action that may impact any listed species
This concludes formal consultation on the Kanab BLM Field Office Resource Management Plan. As provided in 50 CFR §402.16, re-initiation of formal consultation is required if: 1) new information reveals effects of the agency action that may impact listed species or critical habitat in a manner or to an extent not considered in this opinion, 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion, 3) a new species is listed or critical habitat designated that may be affected by the action, or 4) a project proposing biological control measures is proposed.

Thank you for your interest in conserving threatened and endangered species. If we can be of further assistance, please contact Katherine Richardson at (801) 975-3330 ext. 125 or Laura Romin at ext. 123.